Clinical medicine & surgery

THE AMERICAN JOURNAL OF

CLINICAL MEDICINE

Vol. 29, No. 11 NOVEMBER, 1922

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To hide from curious eyes the hurts you feel.
Fight, when you must, unto the bitter end
And test a man before you call him "Friend."

But 'neath your armor, keep a tender heart:
Be quick to help the weak, to heal a smart:
For Love *give* Love in measure good and true,
So, even midst Life's storms, *Content* shall come to you.

G. H. C.

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Clinic & medicine & surgery

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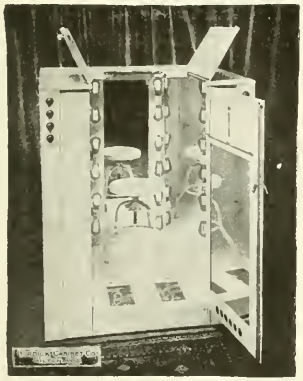

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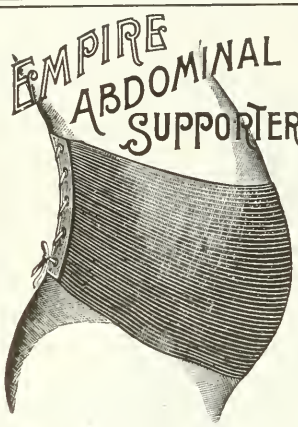

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When you have a plain case of "nerves" with the patient irritable, unhappy, over-excited, with nerves all on edge, prescribe

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This is a combination of the five bromides in a palatable form; it is well borne by the most irritable stomach and is less apt to produce gastric derangement and bromism than the same quantity of any single bromide when given in larger doses over a long period.

Pentabromides is of value wherever there is irritation of the nerves, as in hysteria, epilepsy, insomnia, or headache of nervous origin, uterine derangements, dysmenorrhoea, menorrhagia, acute laryngitis, etc.; in fact, in all the conditions in which the bromides are indicated, its advantages over the ordinary bromides being that it is better borne by the system, is less apt to produce bromism and is much more palatable.

Prescribe as "Pentabromides Merrell"

THE WM S. MERRELL COMPANY
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CINCINNATI, U.S.A.

Major General Merritte W. Ireland
Surgeon-General, United States Army

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vo. 29, No. 11 NOVEMBER, 1922

Major-General Merritte W. Ireland

SURGEON-GENERAL, U. S. ARMY

IN this and in succeeding issues of CLINICAL MEDICINE, we shall offer to our readers portraits of some of the leading medical officers of the United States Army, whose remarkable medical, surgical, administrative and executive ability contributed so greatly to the conservation of our man power during the World War and who in their own way were instrumental in bringing about the success that crowned our efforts. These portraits form a portion of Doctor Blech's "Memoirs" and have been secured through his kindness.

Surgeon-General Ireland was born in 1867, in Indiana, and became a doctor of medicine in 1890 (Detroit Medical College), graduaters portraits of some of the leading medilege, in Philadelphia.

Soon afterwards, he entered the medical corps of the U. S. Army in which he served with distinction. During the Spanish-American War, he was made a surgeon of volunteers with the rank of major and served as senior medical officer with the 45th U. S. infantry. In 1903, he was promoted to the grade of major in the medical corps of the regular army. Eight years later, he became a lieutenant-colonel, and, after our entry into the World War, a colonel.

General Pershing, who had a faculty of surrounding himself with the best available staff officers, selected Colonel Ireland as one of his principal medical officers. In his service with the American Expeditionary Forces, in France, Colonel Ireland had the rare distinction to attain the rank (temporary) of Major-General.

In October 1918, the president appointed General Ireland to be Surgeon-General of the U. S. Army with the grade of Major-General. A few weeks ago, President Harding reappointed him to the same office for another term of four years.

Of the numerous decorations and honors that General Ireland has received, at home and abroad, he is especially proud of the Distinguished-Service Medal awarded him for his remarkable services in France.

General Ireland, whose unusual administrative ability amounts to genius, has served in many capacities, even as the commander of a base hospital. He is largely responsible for the efficiency of the medical service in the A. E. F. As is frequent in truly great men, he is of simple and democratic habits who bears his honors easily, who gives the best that is in him and exacts the same from those serving under his jurisdiction.

THE AMERICAN CHEMICAL INDUSTRY

Certain occurrences cause us to think that, even yet, there are some physicians who, for certain reasons best known to themselves, are not willing to do everything in their power for the protection of the American Chemical Industry. The fact that the chemical section of the tariff bill, recently signed by President Harding, failed so deplorably to afford adequate encouragement and protection to this industry makes us fear that indifference or even ill will (Let us hope not!) may prevail more widely than we were inclined to admit.

Yet, the problem seems to be exceedingly simple. Before the war, we had been accustomed to depend upon Germany for our supplies of fine chemicals, including organic synthetic medicinals. During the war, we were horrified to find that the German factories, where these substances had been produced, were employed for the making of powerful explosives, of poisonous gasses and of other things which enabled the German armies not only to maintain themselves in invaded territory but to come very near winning the war through superiority of arms supported by the most modern means of warfare.

If England, France and the United States had not been able to mobilize promptly chemical production on their own part, the outcome of the vast struggle might have been different.

This experience has demonstrated the importance, both in peace and in war time, of the chemical industry. It should have taught us that the chemical industry is an essential one and that it is fatuous to discourage it in our own country. We might go further and say that it is culpably and criminally careless.

We know, there are optimistic dreamers who declare blithely that there will be no more war. Let us not make any mistake. Wars will be fought as long as human nature is what it is, as long as nations emulate one another, not only in industrial supremacy but in imperialistic policies! While we Americans would never dream of attacking any other nation, while it would be entirely foreign to us to be the aggressor, it might be in the stars for us once more to be forced into another struggle. It is quite thinkable that the experience of the careful automobilist who suffers through the reckless driving of the speed fiend may be duplicated in the race of the nations.

That being the case, it is not easily conceivable how any one personally, how any nation collectively, can hesitate to afford every possible encouragement and protection to chemical research and chemical production within the boundaries of its own country. Chemistry, be it noted, has grown to the dignity of an honored profession in Germany, and that is as it should be. Indeed, without a doubt, chemistry is one of the most vitally important professions. Chemical progress depends essentially upon the success of chemical research. Both the theoretical and the practical chemists deserve well of their country because of their important work.

We believe it the duty of every physician (since we depend upon the work of the chemists for so many of our essential remedies) to work for the furthering of chemical research and chemical protection in our own United States. This is one industry in which we should, on all accounts, be independent of other nations. For this reason, there is need for all of us to communicate with our senators and congressmen and declare to them in no uncertain language the urgent necessity of modifying the paragraphs in the chemical section of the tariff bill that relate to dyes, intermediates and other coaltar derivatives and also to organic synthetic chemicals. To be careless in this matter means to be negligent and culpable. It means to neglect buying fire insurance until the house is on fire. It means to lock the barn door after the horse has been stolen.

It may be illuminating to many of us to find how they think about it in England. For that reason, we have thought it well to reprint an article from *The Chemical News* for August 11, 1922, which was written by Lork Birkenhead, Lord High Chancellor of Great Britain and which deals with this subject in a very enlightening manner. It will be found on page 795 of this issue of CLINICAL MEDICINE.

The more an idea is developed, the more concise becomes its expression; the more a tree is pruned, the better is the fruit.—Alfred Bougeart.

SENATOR FRELINGHUYSEN

Every physician in the United States, irrespective of where he lives, should have more than a friendly feeling for Senator Joseph S. Frelinghuysen of New Jersey. I say "more than a friendly feeling" because I believe that every man in the government service who takes an active interest in matters which concern our profession deserves and should have our active support. Senator Frelinghuysen has fought the battles of the synthetic-chemical industry in the Senate. He is still fighting them, and temporary defeat has not quenched his ardor nor dulled his spirit.

The perpetuation of this industry means much to Americans and particularly to American physicians. The most important developments in our materia medica during the last twenty years have resulted from the work of the chemist. The remedies most widely employed and of most vital concern to the physician are synthesized from coaltar or other substances. In this list of remedies, we can count such drugs as the salicylates, including aspirin; the benzoates, including benzyl benzoate and its congeners; practically all the hypnotics, including barbital, sulphonal and trional; practically all of the local anesthetics, including procaine, eucaine, apothesin and butyn; the analgesics, including acetanilid and phenacetin, the specifics for goutiness and other arthritic conditions, including cinchophen and neocinchophen, the specifics for syphilis, including arsphenamine and neoarsphenamine; and the tasteless laxative, phenolphthalein. Before the war, all these remedies, and many other synthetics which I might mention, were made in Germany, with the exception of the salicylates and a few of the benzoates; also butyn and apothesin which were discovered by Americans and placed on the market by American firms during and since the war.

Now, it is proposed to destroy this industry by providing insufficient tariff protection and by annulling the licensing power of the Chemical Foundation.

Senator Frelinghuysen is the advocate of the chemical industry in the Senate. This fall, he comes up for reelection. Every New Jersey physician who believes that America can and should produce the medicinal chemicals which she requires, and in so doing be prepared for any condition and any emergency, should not only cast his vote for Senator Frelinghuysen, but should get out and work for him. We agree with the New York *Evening Mail*, which says: "At a time when others were pussyfooting on some of the biggest issues before the country, he took his stand firmly on principle, published it to the world and maintained it in the face of criticism from many interests. The state that is served by 'Joe' Frelinghuysen has a full-sized man and an able, conscientious public servant as its senator."

THE AMERICAN RED CROSS ROLL CALL

We are informed that the American Red Cross will start its annual Roll Call on Armistice Day, November 11, and will continue it to Thanksgiving Day, November 30. During this time, it is hoped that all the present members of the American Red Cross will renew their membership and that many new members will be gained. The financial sacrifice involved in the payment of dues is negligible for the individual. The small sum of one dollar is accepted, although larger sums naturally are received gratefully.

The immense amount of good that the American Red Cross has accomplished, is accomplishing now and will accomplish in the future, depends upon the fact that a great many individual membership dues, in the aggregate, amount to large sums which make it possible to accomplish good work. It is truly an instance of "many a mickle make a muckle."

We desire to urge all readers of CLINICAL MEDICINE to renew their own personal membership by payment of $1.00 or more in dues and also to see to it that every single member of their families is enrolled in the roster of the American Red Cross.

There are brains so large that they unconsciously swamp all individualities which come in contact or too near, and brains so small that they can not take in the conception of any other individuality as a whole, only in part or parts.—Mrs. Jameson.

THE NATIONAL TUBERCULOSIS ASSOCIATION

When the National Tuberculosis Association was organized, in 1904, the death rate from tuberculosis in the registration area of the United States was 200 per 100,000 population. At the close of the year 1921, the best available records indicated that the death rate would approach 100 per 100,000. These estimates have since been confirmed. The death rate from tuberculosis in the United States thus has been cut in half, leading to an annual saving of nearly 100,000 human lives.

We believe that this result is the definite and logical outcome of the energetic and nation-wide campaign against tuberculosis that was inaugurated and carried through by the National Tuberculosis Association. It is interesting to remember that the first name of this agency was the National Association for the Study and Prevention of Tuberculosis, the avowed aim and purpose of the association being just what its name designated.

During the over fifteen years of its existence, the National Tuberculosis Association has accomplished much—the striking lowering in tuberculosis mortality being only one of its notable accomplishments. It set itself the task, and succeeded, to bring about a general popular education regarding the dangers of tuberculosis infection through which tuberculosis

disease occurs in due course of time. It caused, directly or indirectly, the establishment of numerous tuberculosis dispensaries in which, more especially, favorable cases are treated and guided back to health. The patients are instructed not only in the care that they should take of their own health but also in the precautions that it is incumbent upon them to observe for the protection of those, especially children, with whom they come in contact.

Through the efforts of the National Tuberculosis Association, a reasonable and practical attitude toward the tuberculosis problem has been established and we have every right to hope that, in course of time, the tuberculosis problem will be solved.

This consummation has been brought noticeably nearer through the Framingham (Mass.) Demonstration which we have mentioned repeatedly in the pages of CLINICAL MEDICINE. Through the instrumentality of the Metropolitan Life Insurance Company, more especially of the head of its welfare work, Dr. Lee K. Frankel, the town of Framingham was selected as an average small town with a population of average origin, characteristics, social and economic conditions, etc. In this town, the tuberculosis problem was studied intensively under the able guidance of Dr. Donald B. Armstrong. Popular education was given freely and, with the cooperation of the people of Framingham themselves, suitable and adequate measures were taken to combat the danger of the Great White Plague. While, for the ten-year period prior to the beginning of the demonstration, the average yearly death rate in Framingham was 121 per 100,000 population, this rate was reduced in five years to 40—a reduction of nearly seventy percent.

This remarkable reduction was brought about by the application of those methods recommended by the national, state and local tuberculosis associations of the country, namely, physical examination, education, proper nursing and institutional care, instruction in health-building, community machinery for the control of disease, and in general the cooperation of the whole town in making "Health First" its ideal.

The story of great movements, like the history of nations and of races, turns largely around the names of the personages, the individuals that impress their personalities and their activities upon their times. In accordance with this general fact, we believe it to have been a happy idea on the part of the historian of the National Tuberculosis Association to trace the history of the first fifteen years of its existence through biographies of those men and women who have been prominent in the activities of the Association. A few of them have passed over to the great majority. Most of them are still living and are justly proud of the wonderful results that their Association has accomplished. An announcement of the history of the National Tuberculosis Association by Dr. S. Adolphus Knopf will appear in the book department of this issue of CLINICAL MEDICINE (p. 855.)

Incidentally, the National Tuberculosis Association is preparing to launch its annual Christmas Seal Sale. It is to be hoped that not only physicians all over the country but also their families, their patients and their friends will interest themselves in this meritorious annual event through which funds are collected that are expended solely in the interest of the anti-tuberculosis campaign.

COLONEL RICHARD SLEE AND GENERAL MEDICAL LABORATORY NO. 1

A few weeks ago, the Surgeon-General, U. S. Army, caused the following order to be transmitted:

OFFICE OF THE SURGEON GENERAL
WASHINGTON

September 7, 1922.

Pursuant to instructions of the Secretary of War, June 27, 1922, the organization of a General Medical Laboratory, Organized Reserves, to be known as General Medical Laboratory No. 1 (Slee Laboratories, Swiftwater, Pa., Unit) is hereby authorized.

M. W. IRELAND,
Surgeon General.

—

WAR DEPARTMENT
OFFICE OF THE SURGEON GENERAL
WASHINGTON

September 7, 1922.

Subject: Commanding Officer, General Medical Laboratory No. 1.

To: Col. Richard Slee, M. O. R. C., Slee Laboratories, Swiftwater, Pa.

1. Pursuant to authority of the Secretary of War, June 27, 1922, General Medical Laboratory No. 1, Organized Reserves, has been authorized and you have been assigned as Commanding Officer.

2. As Commanding Officer of this unit it will be your duty under general instructions

and regulations of the War Department to obtain the enrollment of a sufficient number of qualified Reserve officers to fill all positions of the unit called for by Tables or Organization and to conduct all business pertaining to your unit with this office of the War Department.

By order of the Surgeon General,

C. R. Reynolds,
Assistant.

—

Commenting upon the selection of the Swiftwater Laboratories for General Medical Laboratory No. 1, and upon the appointment of Doctor Slee as commanding officer of the unit, *The Record and Times Democrat,* Stroudsburg, Pa., publishes the following remarks which we copy as being very pertinent:

"The choice of Swiftwater, Monroe County, as the headquarters of the unit, is a recognition of the Slee Laboratories. And no better place could have been selected, for the laboratories there are equipped as few in the country and the output is recognized for its excellent worth. Here, the new army organization will be developed and it is certain there will be no delays in the work, either.

"The recognition given Col. Slee is merited for he won an enviable reputation for the manner in which he conducted Camp Crane, Allentown, where the ambulance units trained for the great world war, and which was declared by all inspecting officers as 100 percent sanitary, a record for the colonel and those in his command. It was a fact, too, that, while other camps were ravaged with disease during the epidemic, Camp Crane for the number of men had the lowest rate in the country, if our memory serves us correctly.

"Col. Slee is also one of the best organizers and he will surround himself with men high in their profession and who will be able to carry out the desires of the government in connection with the general medical laboratory in a most satisfactory manner. His is no small job, either, for he will have a personnel of one hundred men, eighteen of whom will be duly commissioned officers in the medical reserve corps of the army. Further than that, success or failure of the plan depends largely on the success Col. Slee achieves in the work.

"It is plain that the government has determined not to get caught again as it was during the war, when, as a result of so many of the doctors being in the service, medical research and study was seriously interfered with. This handicap was best demonstrated during the epidemic which carried off so many thousand of people, including so many young folks and soldiers in the army, particularly.

"With a well organized department, such as the government has directed Col. Slee to organize, functioning properly, disease should be materially halted and the war department better able to cope with any condition which it may be called on to face. It is a progressive step, and splendid judgment was exercised in the selection of the place for the laboratory and also for the commander."

As our older readers will remember, Doctor Slee was a member of the editorial cabinet of Clinical Medicine for several years previous to our entrance into the war. After that, his absorbing military duties made it impossible for him to continue in his active participation.

We have always been greatly impressed with Doctor Slee's ability. We have noted with satisfaction the recognition that the government granted to his technical and executive ability—by steadily increasing the burdens, and their importance, that were laid upon his shoulders. We congratulate Doctor Slee; his laboratory, the army, and, most of all, the government on this wise decision.

The worst education which teaches self-denial is better than the best which teaches everything else and not that.—John Sterling.

DR. ROBERT GRAY ✢

In earlier volumes of Clinical Medicine, Dr. Robert Gray, of Pichucalco, Mexico, delighted us through numerous contributions, partly autobiographic in character, partly dealing with conditions that he described in Mexico, that country of never-ending rebellion and internecine strife, partly through his kindly, cheerful and unvarying optimistic philosophy. From year to year, Doctor Gray would send us a New Year greeting, the first of January being, evidently, close to his birthday.

Last January, Doctor Gray had attained the exceptional age of ninety-two. He was still in active practice, although he had suffered much through the vicissitudes of his adopted country. After a period of affluence and comfort, he had been reduced to virtual poverty, because of the depredations of the opposing troops, both government and rebel.

Last August, we received a letter from Doctor Gray, dated July 30, and, but a few weeks later, a letter written to him from our office was returned with the annotation by the postmaster that the addressee was deceased.

Doctor Gray had buried himself in those far-away places without companionship of his kind, solely to be of service to the poverty-

struck peons and, often, he had felt terribly alone. Still, there was compensation in the deep affection and even veneration in which he was held by his charges. They will miss him, even as we shall miss his occasional kindly greetings. We are glad, for his sake, that, after so many years of strife and unhappiness, he could go to rest. *Requiescat in pace.*

Energy, even like the biblical grain of mustard-seed, will remove mountains.—Hosea Ballou.

STUDY YOUR PATIENT

After reading Sir James Mackenzie's book on "Symptoms", Dr. G. J. Warnshuis, of Forman, N. D., expressed to us his appreciation of this wonderful book. Mackenzie's insistence upon the necessity of studying the significance of all symptoms reminds Doctor Warnshuis of an article which he wrote some time ago, on the three types of abdominal pain, and which developed this point at length.

"Any fool can reason", he says, "through diligent memorizing, that such and such symptoms are associated with certain disease entities; but, to weigh each symptom, to estimate its exact value as an indication of functional impairment, to determine whether such functional impairment is secondary or primary—ah, that is diagnosis!

"Here lies the great weakness in group practice. A written history is only second-hand information. The diagnostic expert who has a number of subordinates collect his clinical data and pretends to make a diagnosis from that is 'kidding' himself. Unless he is competent to collect the facts, he is not capable of evaluating them. The careful study of one single symptom may reveal more than pages of 'history'.

"A man came in from the country once and wanted me to give him some medicine for a sick boy. I realized that he wanted to save himself the expense of a trip out there, so, I asked him to describe the condition to me. It sounded like an acute abdomen. I said, 'I can tell more if I can just lay my hand on that boy's abdomen for a moment than if you were to talk to me all afternoon'. I found a ruptured appendical abscess. A simple case, but it illustrates my point. I had to have that one sign to make my diagnosis, and a thousand other signs and symptoms wouldn't have helped me."

We appreciate the point that our correspondent makes. It all turns upon the importance for successful treatment, of closely studying our patients and of guarding against neglect of any one symptom that may be important and may constitute the keynote of success.

There is one danger confronting the physician in his care of patients, more especially in those cases that take a protracted, chronic course, in which there is more discomfort than severe pain, and where none of the symptoms ever are alarming. That danger is that the physician may permit himself to go stale on the case, as it were. He may take the symptoms for granted; he may be satisfied with the result of his first, careful and detailed examination and may neglect to repeat this searching investigation whenever circumstances demand it. Such a repeated investigation is called for when the case does not progress satisfactorily after a reasonable period of treatment. It certainly becomes necessary when the patient continues to complain of the same distress, discomfort, disturbance. If the method of treatment outlined and followed conscientiously does not produce results, it is a good plan to start all over again. Consider the patient as representing an entirely new case, taking it up from the beginning, investigating each and every individual symptom carefully and in all its possible bearings. Such a procedure often will lead to new light being shed upon the problem. It certainly will save the physician from going stale on the case. If, on the other hand, the doctor can not bring himself to do that, then it is time either to refer his patient to somebody else or to request a consultation.

CONQUERING THE PLAGUES

Articles in the "Encyclopedia Britannica" are often utilized by our friends, the antivivisectionists, who really should be designated as antiprogressionists (if we may coin that term) —meaning the reactionaries, the stand-patters that oppose the efforts of scientists to find means for the prolongation of life, for the lessening of illness; which, after all, is possible only through intensive study of disease, leading to a true recognition and appreciation of its nature.

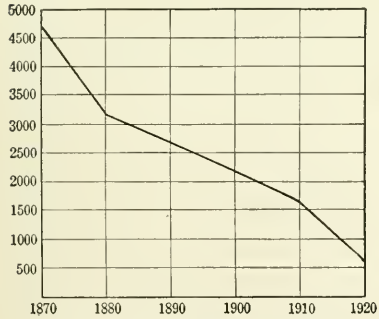
Assertions are often made that the efforts of research workers, of physicians and all those working in behalf of medical sciences have not produced a single beneficial item that tends to lessen the harm done through disease or that helps to make that extremely risky occupation —life—less hazardous. It may interest some of these blind or willful reasoners to see what the latest three volumes of the "Britannica" have to say about this matter.

In the prospectus announcing these three new volumes of the "Encyclopedia Britannica", an interesting article is contained bearing the title "Conquering the Plagues". This little article is reproduced in the following. We

recommend our friends of the anti-camps to study and ponder it.

"Five and a half centuries ago, the Black Death spread over Europe in a series of waves which altogether swept off one-quarter of the inhabitants. In 1664 and 1665, the Great Plague of London killed 70,000 out of a total population of 460,000, though 300,000 are supposed to have fled the city to escape contagion. In Provence, in 1721, more than a third of the population died of the plague. Even in 1907, there were 1,315,000 deaths from plague in India.

"Within the last generation and especially within the last decade, all this was changed. Scientific methods were discovering the bacterial causation of the major diseases, and, almost simultaneously were perfecting preventive and curative treatments with serum and virus. Typhus practically has been eliminated in the civilized world. Yellow fever has disappeared absolutely, except in a few backward towns in South America. Typhoid, which in previous wars killed four times as many men as bullets, in the World War killed only a quarter as many. In the decade 1910-20, the rate in the United States decreased more than 60%.



Deaths from Typhoid per 100,000 Deaths (about one-eighth as many in 1920 as in 1870!)

A man must often exercise or fast or take physic, or be sick.—Sir W. Temple.

THE DAILY BATH

According to the *R & C Medical Pocket Quarterly* (September) Sir James Crichton-Brown made the following statement at a conference of sanitary inspectors in England:

"If every one took a daily bath, hot or cold", he said, "tuberculosis would virtually disappear from the world." He would legislate the great unwashed out of existence by having a tub in every home.

The *Quarterly* adds that there is much in the suggestion, for there are still people who do not know the value, not to say the joy of a daily scrub. Physicians could dispel such beliefs if they would, but perhaps they fear to insult their patients even when they know the advice is needed.

If Sir James thinks that he could legislate the great unwashed out of existence (or, in other words, to convert them into the great washed) by having a tub in every home, he should commune with some settlement workers or social workers who visited certain tenement houses in which bath tubs had been supplied with the benevolent intention of taking the "un-" out of unwashed. To their surprise, they found that the bath tubs formed very convenient receptacles for the storage of potatoes, cabbages and other provisions. In other families, the tubs served more closely their actual purpose, being used for soaking the family washing; but, as to washing the family—that was something else again.

There is no manner of doubt that much good would follow if everyone took a daily bath. This habit seems to have a beneficial influence far beyond that of assuring at least reasonable cleanness of the body. It has a moral effect. It leads to a desire for being generally well groomed. It engenders a distaste for soiled clothing and for preventable dirt and slovenliness in general. Of course, there are some occupations that are unavoidably dirty. But, in that case, we are dealing with "honest" dirt which is legitimate and gotten rid of promptly as soon as the worker comes home. There is no doubt about it but that it gives us a comforting, even luxurious, feeling to have gotten rid of the "foreign matter" on our bodies and to have donned clean clothing.

While we were considering this editorial, we received a letter from a valued eastern correspondent, a physician over eighty years of age, "a robust man, supple, strong and never ailing," who informs us that he gave up washing a good many years ago and that he never expects to return to a practice which he considers devitalizing. This doctor claims that the bathing habit is unhygienic and disease producing.

To tell the truth, it is hard for us to follow our correspondent and, most certainly, we do not agree with him. We rather hold with Sir James in his good opinion of cleanliness.

In giving, a man receives more than he gives; and the more is in proportion to the worth of the thing given.—George MacDonald.

ARSPHENAMINE AND NEOARSPHENAMINE MADE BY THE ABBOTT LABORATORIES

We have just been informed of a transaction recently carried out and through which The Abbott Laboratories (Chicago) have purchased the property, good will and equipment of The Dermatological Research Laboratories (Philadelphia) and will continue there to manufacture the well-known "D.R.L." brands of arsphenamine and neoarsphenamine.

Dr. George W. Raiziss, Head of the Department of Chemistry, will continue to direct the production of these remedies, assisted by his entire corps of specially-trained chemists.

It will be recalled that, early in the war, when it was no longer possible to obtain "Salvarsan" and "Neosalvarsan", Professor Schamberg and his associates from The Dermatological Research Laboratories succeeded in producing preparations of these remedies which were at least equal if not superior to the original products. The American-made remedies were admitted in "New and Nonofficial Remedies" as *arsphenamine* (salvarsan) and *neoarsphenamine* (neosalvarsan) and it is under these official names that the drugs should be prescribed and discussed.

The Abbott Laboratories deserve the thanks of medical men for this progressive undertaking and expansion of their service to the medical profession and, indirectly, to the sick of the land. There is no doubt that this new undertaking will be as successful as have been the activities of this well-established house hitherto.

BUT—WHAT ABOUT THE HOME?

"The time is coming when there will be little, if any, housekeeping as we know housekeeping today. The trend is, to concentrate; to do away with labor that doesn't count." Housekeeping wears women out and it's labor that doesn't particularly enrich the world. It isn't exactly following the lines of least resistance, although it's animal nature to go by the easiest paths. But, it is the endeavor to break away from sordidness, and, God knows that average housekeeping is irksome, barren of all high things and, in the long-drawn end, figures up mighty small considering the hard work, long, drear hours and the broken backs (and hearts) that go with it.

"Some may, and will, claim that the end of 'the home' is in sight. I've read often, of late, how the apartment and the restaurant or the 'delicatessen' are knifing the good, old home. Fudge! Those things abhorred are the logical outcomes with the way we make our living. We can't spend time on work that means no glory or financial good.

"I know that I'd find my newly-wedded wife far more agreeable in a cosy apartment, free from the smell of cookery when I came home from work, than I'd expect in a 'home' for two with the sweat pouring down her face, her clothes soiled from the kitchen range and her hair dusty from the day's sweeping and the smoke of cooking feed permeating the sacred precincts.

"Again, it gives the woman a chance to be somebody. She has a chance to spread, to learn things and to help the world along unhampered by the vacuum cleaner and the dishpan.

"Of course, there are any number of female parasites. They are non-producers in either home or hotel. But, our present economic system is to blame for that, not the female of the species.

"And there will, after a bit, come a change in this system. Today, we are in the throat grasp of the most heartless shipload of pirates that ever swaggered across a poop deck. Nations, including the good old U. S., are being bled, gutted, harpooned and spitted by the financial jugglers, banking free-booters and political buccaneers, and, in the direful wake, there are prostitutes, rotten booze, hop-heads, rampant crime, falling wages, living-costs increasing and the atmosphere of Rome just before its fall. We're near the crest of the ridge. We'll either go one way to hell or the other way to a sane system in industry, a cleaner method in living and healthier hours in recreation.

"It's a fact, and I'm very sorry to so record it, but the average man of medicine is wofully far astern in the grasp of present-day actual conditions. Physicians have sort of fallen in a rut of wheels long since rolled over and gone. They must pull themselves out. They are bright men and students. Their judgment is usually good and they mean to play fair. Their help will be needed and, this, sooner than we may be looking for it. It stands the profession in hand to study, along with their scientific compositions and principles, the economic lessons of right now. Men as brainy as doctors usually are can't be drifters in standpattism. If they think the present system is all O. K. then they should be agreeably for it. If not (and I hope they aren't) they should be decidedly against it."

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The foregoing is a portion of a letter recently received from a correspondent whose

bright communications we value and whose manifest sound commonsense appeals to one. He doesn't know that we are using a portion of his letter, but he will find out.

It seems that our correspondent has anticipated the most insistent objection to his view, namely that the easier life, which he pictures as desirable, might destroy the home. He dismisses that objection with a solitary "fudge." Yet, we can not help asking, what about the children? Housekeeping in an apartment or, worse still, in a hotel (they call it housekeeping-apartments, in those beautiful and expensive hostilries that they are putting up now in the large cities) is, to our mind, a makeshift affair at best. It isn't possible to live one's real life that way. Of course, there are thousands of people who are born, live their lives and die in apartments. They seem to be having good times; many even seem to be happy and content (the two are not quite synonymous); and still, after having tried all three ways, living in a house, living in numerous apartments, and also living in hotels, we can not but conclude that *living* is possible only in a house. In the apartment and hotel, you are staying. There is something transitory, impermanent, unreal about it. Somehow, we have always felt, while living in apartments or hotels, that we didn't "belong." We were not put there to stay put, from year to year, or even from month to month; the question always arose more or less insistently, where do we go from here?

One of the most serious difficulties associated with life in either apartment or hotel is presented by the children. The youngsters decidedly are *personæ non gratæ* in either. In many apartments, they are not admitted and the unfortunate parents are made to feel even that it is disgraceful almost, certainly inconsiderate and silly to have children.

If children are admitted, they are sadly handicapped in apartments as in hotels. The other tenants or guests object to their playing, to their omnipresence, to their exuberance. Moreover, the play of those poor youngsters is a parody only of what it should be and of what it might be if their parents had been willing to assume the collateral burden of a house and of a real home—collateral because it really follows as a necessity almost for the sake of the children's normal and best possible development.

Of course, couples without children can easily go the whole length and escape other responsibilities even as they are escaping the one of raising a family. Nevertheless, we maintain that these people lose more than they gain. In years of nomadic life, of peregrinations from one apartment to the other, we have never felt at home, and the glib expression favored by some people that, home is where they hang their hats, always has seemed to us an absurdity.

If our correspondent likens present-day conditions to the atmosphere of Rome just before its fall, if he deplores the bleeding, gutting, harpooning of the people by financial jugglers, by free-booting bankers and political buccaneers, if he points a warning finger at the prostitution, the rotten booze, the hop-heads, rampant crime, falling wages, increase of living costs—he is in accord with the assertions of many observers who, without in the least wishing to emulate Cassandra, still, for the last thirty years (to our personal knowledge), voiced the same warnings and, like warnings were sounded by the prophets of old.

If we accept the dictum that history repeats itself, and if it is an unfailing truth that nations and races pass through a period of development, rise to the climax of power and then degenerate, the outlook is gloomy. No doubt, there are many conditions that remind us of the period of the Roman Empire at its worst. Happy is the people that takes warning from the lessons of history; and fortunate is that nation that takes heed not to repeat the mistakes of those who went before.

We believe that the unsettled, pleasure-seeking, grasping, grafting tendencies of the day are due, at least in part, to the breaking up of the home. The "cliff dwellers," as people living in apartment houses and hotels are often called, have no sense of "belonging," no consciousness of adhesion. They are free-lances and nomads, moving easily from place to place. Very often, they lose all sense of responsibility, changing not only their residence but the district in which they live, after having exhausted their credit, and leaving unpaid bills behind them. Against this, those who live in houses, in real homes, are far more settled. They are careful not to exhaust their credit. They are useful citizens, members of the communities to which they belong and take an active interest in improving conditions in every direction possible.

We do not agree with our correspondent. We are convinced that the home is the necessary foundation of the nation. We believe that a real home is difficult if not impossible to establish in an apartment, and it can not be had permanently in two rooms and kitchenette. It certainly is out of question in a hotel. The

easiest way is not always the best way. Responsibility, work and other burdens serve their purpose in developing our characters, in steadying our positions and in stabilizing us as the elements out of which a great nation is built up.

The poets did well to conjoin music and medicine, because the office of medicine is but to tune the curious harp of man's body.—Bacon.

THE DAYS OF LAUDABLE PUS

In an interesting and entertaining article appearing in another department of this month's CLINICAL MEDICINE (p. 837), Dr. C. A. Bryce harks back to the days when "germs" did not bother medical men and when surgical technic was not hedged about with, and complicated by, the most awe-inspiring KuKlux rites as they are today. Doctor Bryce relates stories of circumstances and conditions under which operations were carried out (successfully, too) that would make our hair stand on end nowadays (if we had any!)—circumstances under which no well brought-up modern surgeon would even remotely dream of undertaking any operation. And, yet, operations were done and, marvelous to relate, the patients lived. And they got well, too.

It would be futile to conclude, from the instances that Doctor Bryce narrates so graphically, that the surgical technic of bygone days, crude and even uncouth as it was, was superior to the prevailing ones or that our present fastidious efforts to assure aseptic surroundings or at least aseptic operating fields were extravagant or needless. Modern results of the most serious surgical undertakings are demonstrably far superior to those of a generation ago and even the isolated astounding successes that are recorded of those days can not controvert the justice of the care that we take now to exclude as much as possible the sources of infection and of complications that would jeopardize the functional as well as the cosmetic results of operative interference.

It must be granted that the success of the late Lawson Tait, with his admitted and even spectacular contempt for antisepsis and asepsis, gives food for serious thought. Mr. Tait absolutely refused to act upon the results of bacteriologic research upon the discoveries relating to wound infection, being satisfied to maintain but ordinary cleanliness and asserting that nothing but pure water was required for that purpose. Mr. Tait's marvelous technic, his wonderful ability and his keen surgical acumen may have aided him in producing the results that were his. From our present viewpoint, they were so great, not because but in spite of his methods that would be condemned unhesitatingly by all surgeons of today.

While we would not dream of encouraging anybody in indulging in haphazard and careless methods (always, providing that the operative work itself were done well), there still resides a useful lesson in the experiences of those who preceded us. Conditions and circumstances like those described by Doctor Bryce may be, and are, met with today. We believe that, in lumber camps, in far-off districts, it is not always possible to assure the faultless and surgically clean surroundings and routine procedures that prevail in the sacred precincts of the modern-hospital operating room. No doubt, hospitals well equipped and thoroughly up-to-date there are even in the most remote regions of civilization. Yet, accidents have a way of occurring at most inconvenient times and at highly inconsiderate distances from the hospital, also under circumstances that must horrify the sterilized conscience of the surgeon. Nevertheless, lumber jacks, for instance, have a way of getting over frightful hurts, stokers, who are injured in the very bowels of our big ocean liners, pass through horrible injuries with splendid results.

Shall we say that it is those of the effete city civilization who succumb to the pus-producing action of bacteria? The exact nature and essence of "resistance", of "immunity", are still under discussion, although it may be claimed justly that a vigorous, hardy organism can resist the destructive action of these particular bacteria, while, strangely enough, it may fall a ready victim to the inroads (under certain circumstances) of pneumococci and similar organisms that induce inflammations of the lung tissue.

The whole thing is, after all, not as simple nor is it as clear as we sometimes think. The existing popular fear of "germs", the finicky avoidance of all possibility of infection seems needless—sometimes. At other times, the insidious danger of sepsis manifests itself in such horrible results that we are driven necessarily to live up to those ideas that present-day teachings and consensus of opinion have declared to be right. It is interesting to hark back, to meditate upon things that were. It induces a proper humility, a modesty in us, if we accept the lesson. At the same time, it should spur us on to further efforts in the direction of procuring all the light and all the knowledge that can be gained, rather than being satisfied with fragmentary acquirements, no matter how brilliant they may seem.

Leading Articles

Shall German Brains Beat British?

By LORD BIRKENHEAD*

Lord High Chancellor of Great Britain

IT has been said, with more point than politeness, that statistics never lie unless the statistician is a liar. I want to begin, notwithstanding this forbidding epigram, with some statistics which tell their own tale so plainly that no one can misunderstand or misuse them. I am not responsible for the figures, for I take them from official Blue-books.

To begin with, here are the values of the chemicals imported into this country during the years 1913-1919:

Years.	Pounds.
1913	4,534,536
1914	4,180,400
1915	7,493,134
1916	12,268,439
1917	14,178,139
1918	25,623,731
1919	7,248,780

Side by side with the above statistical story of our country's need for chemicals during the great war, is another and very different story to be told, also in statistics. The following table gives the annual value of the exports of chemicals from Germany in the period preceding the war:

Years.	Pounds.
1901	20,418,300
1902	21,520,500
1903	22,412,200
1904	23,674,900
1905	27,117,000
1906	29,510,200
1907	29,422,500
1908	27,702,800
1909	31,226,300
1910	35,551,000
1911	38,573,500
1912	41,923,500

The contrast is very striking. These statistics show us that in the period preceding the war Germany was making giant strides in the chemical industry. They are the statistical reflection of the fact, known to everyone, that in this industry she was the first and the rest of the world nowhere.

Our Handicap

Now, there are some people who can derive comfort from the pious faith that the pre-war position of the chemical industries is an excellent illustration of the great advantages that flow from what they call the "international division of labour."

Nature, they say, marks out certain territorial areas as suited for one industry and not suited at all, or much less suited, for another. They go on to argue that, what Nature does in extreme cases, man rightly proceeds to do in other cases not so extreme. Man places the chief seat of the heavy chemical trades in the United Kingdom and the chief seat of the fine chemical trades in Germany. It works out for the advantage of everybody. We specialize in one thing and the Germans in another; and so we mutually supplement and round off our activities to the great advantage not only of ourselves but of the whole world. I agree, with a limitation. This harmonious theory of the territorial division of labour between one race of men and another supposes that men do nothing but work and trade. Unfortunately, they sometimes fight. They began to fight on August 1, 1914, and, before many months had gone by, it was discovered that the territorial division of the chemical industries between ourselves and Germany, even if it had been an advantage to us during peace, had at once become a definite disadvantage on the outbreak of war.

The plain truth is that it might have led to our defeat but for the fact that we set to work to draw raw materials from all parts of the world, and to manufacture for ourselves the essential chemicals of war of which Germany had had a practical monopoly.

Every man with a single grain of common sense fervently hopes that the great war taught the world that there should be no more war. But it is one thing to hate war and to hope that there will be no more war, and quite another thing to act on the supposition that there will be one. Hate and loathe war as he may, the patriot statesman has got to reckon with the fact that the past history of the world is full of wars, and that, whatever his hopes may be,

*Reprinted by Courtesy of the "Weekly Dispatch" in "The Chemical News," August 11, 1922.

he must act on the supposition that war has not come to an end.

And, judging from the history of the last war, those who have the right, because they have the knowledge, to demand that we should listen to them, tell us, without hesitation, that chemistry will play a greater part in the next war than it did in the last. It is not merely a question of poison gas, the use of which the Germans introduced, to their subsequent great regret. Chemistry is closely concerned with the manufacture of those instruments of war, the use of which is perfectly legitimate. The best gun and the best explosive will fall in the long run to the nation with the best chemicals.

Their Advantage

During the war, we improvised a fine chemical industry which enabled us to carry on and pull through. But, naturally enough, the reopening of trade between Germany and the rest of the world including ourselves, brings us face to face with this question: How are we to make sure that in the matter of chemicals no subsequent experience, whatever it be, shall find us once again, as in August, 1914, at a complete disadvantage in relation to Germany? For, so far as these trades are concerned, Germany begins the peace with almost the same superabundance of advantages with which she began the war. If, on the one hand, the workers in her chemical trade are now slovenly and slack in comparison with pre-war days, the exigencies of war drove German chemists to make discoveries of very great importance.

I have no technical knowledge on these points, but I read, for example, that she successfully made synthetic rubber, and that she was also successful in turning her lignite, or brown coal as it is commonly called, into oil; and it requires no technical knowledge to be able to argue that, if she succeeds by further effort in doing these things on a commercial scale and on commercial terms, she has worked two miracles which will give her a tremendous advantage in the industries of peace.

We cannot rob them of these advantages, and we do not propose to try. What we must do is to follow suit.

Brains Against Brains

At bottom the question is: Shall German brains beat British brains? And here I want to point a very obvious moral. Not only our extremists constantly talk as if, from the economic point of view, the only kind of labour that counted was manual labour, but our Labour leaders, who surely know better, disparage all the higher sorts of labour, inventive and directive, by constantly ignoring them on the platform—a considered piece of propaganda for which the cautious praise of Mr. Sidney Webb, in his innumerable and unending books, pamphlets, leaflets, and memoranda, is no real counterpoise. *The most important kind of labour in this or any other country is brain labour.*

I am at a disadvantage in one respect because Germany has never been, and never, I imagine, will be my spiritual home. The deficiency, however, does not prevent me from discerning a very important difference between the two brains, German and British. It was a British chemist, Perkin, who discovered that dyes could be made from coaltar. It was German chemists who made them and refined on them in such a way that the British textile trades became absolutely dependent on German dyes.

The British brain works best upon special lines of its own. Think of two men, quite unknown to each other, Darwin and Wallace, simultaneously working out the great doctrine of evolution. In a word, the individualism, which is the root characteristic of the Englishman, applies not only to his conduct and to his creed, but affects the whole of his mental processes. I profoundly believe that in the war that was a great advantage. The self-reliance of Englishmen, their capacity to think, reason, and act for themselves were of untold advantage in the trenches.

But, now another thing. At home, in order to win the war, we had to imitate the Germans in one important respect. We had to do our brain work in teams. Our scientists had to do their researching as an organized body. Someone had to dictate the ends to be sought and to suggest the methods to be adopted. We won the war by pooling not only our energy but our minds.

Now, this is precisely how the German chemists built up their giant industry. In June, 1919, the Association of British Chemical Manufacturers sent a highly qualified mission into the occupied territories of Germany to examine things on the spot. It is clear that the mission came back deeply impressed by what they had seen.

Training for the Future

They had made up their minds that German success in the chemical industry was thoroughly deserved because it had been won by honest labour. Whose labour? The great organizers of industry—the men who stand at the head of such gigantic firms as Bayer and Company and Lucius and Bruening deserve their full share of praise. Probably when they banded themselves into the "I. G."—a combine of all the

great firms—they may have lost in initiative what they gained in efficiency. That is a matter on which no one can dogmatize. But at bottom the labour which built up the German chemical industry was the labour of chemists.

In Germany, the trained chemist has come to occupy a position in society strictly analogous to that occupied in this country by the lawyer or the clergyman. Chemistry in Germany is a liberal profession, and chemists of the highest quality abound.

Though I have been writing throughout of one industry only, it is obvious enough that I have had industry as a whole in view. The manufacturers of this country have got to make up their minds on one point. They must either train and use brains plentifully and bountifully, or fall behind in the race for industrial success.

The workshop and the university must be linked together. The laboratory and the library are as essential elements of business success as the costing department and the counting house. The twins of trade henceforth are represented by the great organizer and the great scientist.

Ultraviolet Radiation in Rickets

(A Compiled Study)

By A. J. PACINI, M. D., Chicago, Illinois
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THIS study is simply a record, in abstract, of the recent authentic literature that has appeared in this country, having to do with the problem of rickets and its ultraviolet therapy. By authentic, is meant such literature as is truly constructive through its inherently scientific character.

Each title is presented in the chronologic order in which it appeared in the medical press. The essential points that are concerned with the main issue, namely, ultraviolet radiation in rickets, are discussed. Following this, the isolated facts are reviewed in a more coherent manner, with final instructions for the method used in the ultraviolet treatment of calcium metabolism dyscrasias, such as rickets represents.

Literature Abstracts

1. *Paper*: The Diet of the Negro Mother in New York City. Alfred F. Hess, M. D. and Lester J. Unger, M. D., New York. Reprinted from *The Journal of the American Medical Association*, March 30, 1918, Vol. 70, pp. 900-902.

Abstract: A hypothetic aspect of the problem is presented. The Negro race is especially prone to rickets. The nature of this racial predisposition is unsolved. It is known that the Negro in the tropics is less often attacked than the Negro in temperate climates.

Comment: Of course, the Negro standard of living, as compared to that of the white, must be appraised. It is interesting to see that the rickets incidence is related to actinic intensity, which is greater in the tropics than in temperate climates. Susceptibility to rickets in the Negro, as against whites, may be due also to actinic protection derived from pigment.

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2. *Paper*: The Clinical Role of the Fat-Soluble Vitamine: Its Relation to Rickets. Alfred F. Hess, M. D., and Lester J. Unger, M. D., New York. Reprinted from *The Journal of the American Medical Association*, Jan. 24, 1920, Vol. 74, pp. 217-223.

Abstract: Some studies on the nondietetic factors in rickets incidence. Rickets develops notwithstanding an abundance of fresh air. Liberal allowance of light to infants in glass cubicals failed to influence rickety development. General bodily exposure to mercury vapor quartz lamps, for twenty minutes, (voltage, intensity and tube-skin distance not given) made the infants brown colored but did not seem to benefit the rickets. Ultraviolet radiation was therefore not considered the equivalent of heliotherapy.

Comment: Air is not a curative factor in rickets; nor *glass*-filtered sunlight. Sunlight without filtration is essential.

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3. *Paper*: Experimental Rickets in Rats II. The Failure of Rats to Develop Rickets on a Diet Deficient in Vitamine A. A. F. Hess, G. F. McCann, and A. M. Pappenheimer, Reprinted from *The Journal of Biological Chemistry*, Vol. 148, No. 2, July, 1921.

Authors' Conclusion: "Young rats receiving a diet, complete except for a lack of the fat-soluble vitamine, invariably failed to grow and generally developed keratitis. The keratitis developed less frequently when the ration

included orange juice. If this diet is continued for a period of months, the animals die, either of inanition or, more often, of some intercurrent infection. The skeletons of such rats show no gross changes whatsoever. Microscopic examination of the bones of 22 rats on a ration of this character presented definite signs of a lack of active osteogenesis, but in no instance lesions resembling rickets. In view of these results and of their conformity with our previous experience in regard to infantile rickets, we are of the opinion that this vitamine cannot be regarded as the antirachitic vitamine, and that, if the diet is otherwise adequate, its deficiency does not bring about rickets."

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4. *Paper*: The Cure of Infantile Rickets by Sunlight. Preliminary Report, Alfred F. Hess, M. D., and Lester J. Unger, M. D., New York, Reprinted from *The Journal of the American Medical Association*, July 2, 1921, Vol. 77, p. 39.

Abstract: There are some results, as yet unpublished at this time, to which the authors refer as follows: "encouraged by our results in curing rickets by means of the ultraviolet ray, we have recently attempted to attain similar results by the direct action of the sun's rays". The inference is clearly brought out that, though diet may be an important factor in the etiologic incidence of rickets, *proper actinic environment is no less important.*

Comment: No better remark can be made than that which concludes the contribution of the authors; which is, "Indeed it would seem that the action of the sun's rays will have to be taken into account in metabolism studies on animals and man, which concern themselves with the body exchanges of the inorganic salts."

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5. *Paper*: An Interpretation of the Seasonal Variation of Rickets, Alfred F. Hess and Lester J. Unger, New York, Reprinted from *The American Journal of Diseases of Children*, August 1921, Vol. 22, pp. 186-192.

Authors' Conclusion: "Milk from pasture-fed cows (summer milk) failed to prevent the development or to decrease the incidence of rickets during the winter.

"On the other hand, treatment with ultraviolet rays or with sunlight brought about calcification of the bones during the winter, as demonstrated by means of the Roentgen ray. These contrasting results lead to the conclusion that hygienic factors, especially sunlight, and not dietetic factors play the dominant role in the marked seasonal variation of this disorder".

Comment: The conviction is growing more forcible in accrediting the actinic factors in environment as cogent in the physiologic normalcy of biologic conduct.

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6. *Paper*: Calcium and Phosphorus in the Serum in Relation of Rickets. John Howland and Benjamin Kramer, Baltimore, Reprinted from *The American Journal of Diseases of Children*, August 1921, Vol. 22, pp. 105-119.

Authors' Conclusions: "In nonrachitic infants and young children, the concentration of calcium is from 10 to 11 mg. per 100 Cc. of serum.

The concentration of inorganic phosphorus is about 5 mg. per 100 Cc. of serum.

The constancy of the concentration of calcium, phosphorus and bicarbonate in the serum of normal children undoubtedly determines the constancy of the inorganic composition of normal bone.

During the period of active rickets, the calcium concentration may be normal or slightly reduced. The reduction does not seem to depend directly on the rickets. There are reasons for believing that, in many instances, the reduction is associated with a latent form of tetany. The inorganic phosphorus of the serum is regularly reduced in active rickets, sometimes to an extreme degree. During the process of healing, whether occurring spontaneously or as the result of the administration of codliver oil, the phosphorus content of the serum gradually rises to a normal figure and often somewhat above this. Relapses are accompanied by a fall in the phosphorus concentration of the serum.

All the children under 2½ years of age, in whom we have found an inorganic phosphorus content of the serum, of 3.0 mg. or less, have been suffering from active rickets.

Comment: Observe that the calcium and phosphorus content of the blood is interpreted as fundamental in regulating the integrity of bone structure. It will be seen in subsequent abstracts that ultraviolet energy increases the blood (and serum) content of calcium and phosphorus; an important fact in connection with the treatment of calcium perversions generally.

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7. *Paper*: The Prevention and Cure of Rickets by Sunlight, Alfred F. Hess, M. D., New York, Reprinted from February, 1922, issue of *The American Journal of Public Health.*

Author's Discussion: "That rickets can be prevented or cured by sunlight, does not imply that light is the only agent to be relied upon as a therapeutic measure. It should not be for-

gotten that we possess a specific for rickets, that codliver oil can be relied upon for its prevention or cure. In a study of rickets carried out a few years ago, by Dr. Unger and myself, among the Negro babies of the Columbus Hill district of this city, the efficacy of codliver oil was clearly demonstrated. As a result of this experience and that of others, we stated that rickets could be eradicated from New York City by a yearly expenditure of about $100,000 for codliver oil.

"What we wish to emphasize more particularly is rather the prophylaxis against rickets. At the present time, it is impossible to state the comparative roles of dietetic and of hygienic factors in its etiology. Probably, their influence varies at different times and under different circumstances. During the war, defective diet, no doubt, was a potent factor in increasing the incidence of rickets in the Central Empires. In New York City, I believe that lack of sunlight plays a very important role in its development, and I am strengthened in this view by the marked seasonal incidence which it evinces.

"Now that it has been shown that sunlight is a valuable preventive and curative measure in rickets, those active in infant welfare will have to regulate the care of the baby so that it is not deprived of this simple and beneficent therapeutic agent. At the present time, infants are swathed from head to toe in clothing, so that the sun can fall only upon their faces; even in the mildest weather, their bodies receive little direct sunlight. Such habits should be altered. If the baby is in the sun, its arms and legs may be bared without causing discomfort. In cold weather, the body must be particularly well wrapped and the hands and feet protected, but the arms and legs may be exposed.

"It is evident that a corollary of the benefits to be derived from sunlight is the need of improving the housing conditions of the poor and the elimination of the dark tenements which shut out all the sunlight. This gospel is applicable to children's wards in hospitals and child-caring institutions, and should lead them to increase their provision for outdoor treatment, roof wards and solaria. The solaria must not, however, be enclosed in glass, for, although the light and heat rays penetrate glass, a large part of the curative radiations are lost by the rays traversing the window panes.

"The fact that sunlight plays an important role in the development of rickets certainly explains, to a large degree, its distribution and the comparative freedom of the children of the tropics and in the countries where an outdoor life is followed. Still, this is not the only factor.

"These clinical results, confirmed by laboratory experiments, show that, although we have realized the importance of light in the growth of plant life, we have accorded it too little significance in the development of animal life. We have known that a growing plant cannot thrive in the dark, but have failed to realize that the same laws apply to growing animals. Infants have been the chief sufferers from this lack of understanding, and the development of rickets is one of its unfortunate results."

Comment: The important role of actinism is economically evaluated; which leads to some interesting hospitalization speculations.

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8. *Paper*: Experimental Rickets in Rats. III. The Prevention of Rickets in Rats by Exposure to Sunlight, Alfred F. Hess, L. J. Unger, and A. M. Pappenheimer, Reprinted from *The Journal of Biological Chemistry*, Vol. 50, No. 1, January, 1922.

Authors' Discussion and Comment: "As sunlight has a marked effect on the bony development of rats, it is evident that, in future in similar nutritional investigations, the light-factor will have to be controlled and standardized. It seems probable that some of the irregularities and lack of conformity observed by investigators in this field may be attributed to keeping the experimental animals under dissimilar intensities of light. The most interesting aspect of the question, however, is the phenomenon that the sun's rays are able to stimulate a deposition of inorganic salts where these are lacking. The damaging effect of darkness emphasizes the fact that sunlight is of great importance, not merely for the vegetable world but also for the higher animals. Furthermore, the fact that sunlight is efficacious in the rickets of both, human beings and rats, serves to show the similarity of this disorder in these two species. These results indicate that, in the prevention and causation of rickets, at least one hygienic factor plays an important role which will have to be carefully considered in future studies of this disorder.

Conclusions: Rachitic lesions, which develop regularly in rats upon a diet adequate in calcium but low in phosphorus, may be prevented by short exposures to direct sunlight.

This protection is equivalent to the addition of at least 75 mg. of phosphorus to the diet in the form of basic potassium phosphate.

Comment: Actinic influence on bone production is again reiterated. The estimate in Grams of the phosphorus retention following exposure to actinism is a valuable therapeutic considera-

tion. It must not be overlooked that the bone physiology controlled by actinic energy is independent of other functions, as for instance the digestive function, when the same effect is essayed by the substitution of codliver oil for ultraviolet radiation. There may be bone dyscrasias, that do not lend themselves to codliver oil therapy, by reason of its taste and sometimes indigestibility, but that ultraviolet radiation can reach simply and without nausea.

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9. *Paper*: The Cure of Infantile Rickets by Sunlight Accompanied by An Increase in the Inorganic Phosphate of the Blood. Alfred F. Hess, M. D. and Margaret B. Gutman, M. A., New York, Reprinted from *The Journal of the American Medical Association*, Jan. 7, 1922, Vol. 78, pp. 29-31.

Author's Conclusion: "It is evident that sunlight not only brings about a clinical cure of the characteristic lesions, but also brings about an increase in the inorganic phosphate of the blood similar to that noted when the cure is accomplished by means of the specific codliver oil. This observation is of interest, both as additional testimony of the curative value of sunlight in this disorder, and as evidence that the curative process occasioned by these divergent therapeutic agents will probably be found to be fundamentally the same. These results establish a chemical basis for the use of heliotherapy in rickets. Furthermore, they furnish the first definite evidence of metabolic change in the animal body brought about by the solar rays."

Comment: When the authors say that this contribution furnishes the first definite evidence of metabolic change wrought through the influence of ultraviolet radiation, they imply, of course, the first quantitative biochemical measure of the change produced. It has long been empiric clinical knowledge that ultraviolet radiation acts as a metabolic pacemaker.

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10. *Paper*: The Prevention of the Development of Rickets in Rats by Sunlight. Studies on Experimental Rickets: XIV. G. E. Powers, M. D., E. A. Park, M. D., P. G. Shipley, M. D., E. V. McCollum, Ph.D., and Nina Simmonds, S. B., Reprinted from *The Journal of the American Medical Association*, Jan. 21, 1922, Vol. 78, pp. 159-165.

Author's Summary: 1. "The object of the experiment was, to determine whether or not sunlight prevents the development of rickets in rats.

2. "A diet was employed which at room light regularly gives rise to a disease in its essential features identical with rickets, as seen in human beings. The diet was high in calcium, low in phosphorus and was insufficiently supplied with fat-soluble A. In other respects it was well constituted.

3. "Eighteen rats were placed on the diet. Twelve were exposed to sunlight for a total of 242 hours over a period of sixty-two days. Six were kept under conditions of ordinary room light as control animals.

4. "The control rats, killed with ether at the end of sixty days, all showed rickets.

5. "The rats exposed to sunlight, killed coincidently, remained without exception entirely free from rickets. The absence of the lesions of rickets was confirmed by histologic examination.

6. "The beneficial effects of the sun's rays were not limited to the skeleton, since the condition of the animals underwent a general improvement under the influence of the treatment with sunlight. The effect of the sunlight on the skeleton was a manifestation of its favorable effect only on a single tissue.

7. "The exposure to the sun's rays, however, did not entirely compensate for the defects in the diet. The animals remained undersized; the bones, though completely calcified, remained thin. Though the sunlight did not alter the defects in the diet, it permitted the animals to thrive to a limited extent in the presence of them.

8. "It is necessary to conclude, therefore, that the sunlight in some way raises the efficiency of the body cells. It enables the organism to put into operation regulatory mechanisms which otherwise would have been inoperative or ineffectual.

9. "The effects of sunlight and of codliver oil on the growth and calcification of the skeleton and on the animal as a whole seem to be similar, if not identical."

Comment: These students express the systemic uplift accruing from bodily irradiations to actinic energy as similar, if not identical, to codliver oil therapy. Clinical observations of the good derived from systemic irradiations to ultraviolet energy are many; and, using the conclusion of Powers, Shipley, *et al.*, they may be said to be equivalent to the uplift furnished by codliver oil.

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11. *Paper*: Newer Aspects of the Rickets Problem, Alfred F. Hess, M. D., New York, Reprinted from *The Journal of the American Medical Association*, April 22, 1922, Vol. 78, pp. 1177-1183.

Author's Data: "The factor of Light. For

centuries, physicians have discussed whether faulty diet or hygiene is the etiologic factor in rickets. The pendulum has swung first in one direction and then in the other, swayed by the authority and prestige of individuals rather than by objective evidence. Not many years ago, the popular theory was that of Kassowitz, who believed that rickets is due to breathing of noxious gases of badly-ventilated rooms. More recently, the role of hygiene has been regarded as almost negligible, and diet as all important, owing to the realization of the significance of diet in nutrition and following the report of Mellanby and its wide acceptance by investigators and by the medical profession. A notable exception in this regard has been the unswerving contention of Findlay that faulty hygiene—an inadequate supply of fresh air and exercise—is the dominant factor. Today, the influence of hygiene in the etiology of rickets is firmly established, and, although comprising possibly several elements, has been shown to be identified largely with an adequate supply of sunlight.

"It is true that this conception is not new. It has been mentioned from time to time by various writers and, some years ago, was stressed particularly by Palm; but, heretofore, the evidence was merely suggestive and the possibility was ever present that diet might have been involved. Recently, Huldschinsky has shown that infantile rickets can be cured by the rays of the mercury vapor quartz lamp. As stated elsewhere, Unger and myself made use of these rays in 1918 for this purpose, but failed to obtain definite results, as the healing process could not be followed by means of roentgenograms. For the past year, we have employed direct sunlight as a therapeutic measure, and have found it most efficacious. It would lead too far afield to discuss the use of heliotherapy in rickets; suffice it to state that the rays must impinge directly on the skin, and that the curative effect has been demonstrated by clinical examination, by roentgenograms of the epiphyses, and by an increase in the inorganic phosphate of the blood. It is a systemic measure and not a local one, affecting tissues which have not been exposed to the rays, just as chlorophyl develops in the parts of plants which lie outside the field of the sun's radiations. These clinical results, which indicate the importance of hygiene in relation to rickets, have been fully substantiated in the laboratory by the work of Hess, Unger and Pappenheimer, and by that of Powers and Park and their associates. These investigators found that, when rats are fed a rickets-producing diet, they can be regularly prevented from developing this disorder by short and frequent exposures to the sun's rays.

"Although it is now established clinically and experimentally that sunlight is concerned in the development of rickets, its significance is variously assessed. Some are of the opinion that its function is quite secondary and unimportant. It is a difficult aspect to discuss at present, but should be considered on account of its importance in preventive medicine and of its sociological aspects.

"In studying this question, one must constantly bear in mind that rickets is preeminently a seasonal disorder; that it is characterized by a striking seasonal variation. Clinicians as well as pathologists are in complete agreement as to its marked incidence in the winter and spring, and comparative rarity in the summer. It is our experience, acquired in the course of many years of institutional practice, that three-quarters of the cases of rickets develop during the first half of the calendar year, and but one-quarter during the second half, and that almost all of the latter are observed in late November and in December. This seasonal factor is climatic, not dietetic, and due almost entirely to a lack of sunlight.

"It may be suggested that a deficiency of sunlight is merely the fulminating or precipitating factor, bringing to evidence pre-existing rickets that has resulted from faulty diet. This raises a knotty question. There is no doubt that rickets is not only a hygienic but also a dietetic disorder, a point of view which is amply demonstrated by animal experiments. Rats fed an ideal diet do not develop rickets when kept in the dark; whether such would be the case with infants who received an ideal diet—adequate nursing—can only be surmised. However this may be, it should be remembered that a large proportion of the infants in our large cities are not nursed but bottle-fed, which means that they do not obtain a diet which, from a chemical standpoint, is correctly constituted. Considered as a group, they require an adjuvant to protect them from rickets.

"The question of the etiologic importance of light cannot be considered, therefore, by itself, but must be surveyed in relation to the reciprocal factor of diet. We shall see that there are at least two other determinants which play a role in relation to light—rate of growth and pigmentation of the skin.

"Animal experiments well illustrate the close relationship between light and diet in the etiology of rickets. The diet remaining constant —standard rickets-producing diet—rickets will

either develop or not according to the dosage of light. For example, it was found that raying for two minutes daily with the mercury vapor lamp, at a distance of 3 feet, afforded protection, whereas one minute was insufficient; four minutes sufficed when a carbon arc lamp was used at this distance, but two minutes did not suffice; direct sunlight for fifteen minutes daily was protective, but reflected sunlight for the same length of time afforded incomplete protection. A similar reciprocal relationship can be observed when the degree of light remains constant, but the rickets-producing intensity of the diet is altered. For example, if the standard diet is employed, short exposures to light have been found insufficient, whereas when 25 mg. percent. of phosphorus was added to this dietary, the same degree of light afforded protection.

"There can be little doubt that the same cooperative or reciprocal relationship between light and diet prevails in regard to infantile rickets. The marked incidence of rickets in the early spring must be interpreted as indicating that, during the winter, the light factor ceased to perform its share of the protective work. It is true of light, as of phosphorus and probably of other dietary factors, that requirement bears a direct relationship to rate of growth. Numerous animal experiments could be cited to illustrate this point; for example: On the Sherman and Pappenheimer diet, a standard degree of light (raying of four minutes daily with the carbon arc lamp at a distance of 3 feet) will invariably protect rats from rickets; on this diet the rats grow poorly. When, however, this diet is so altered as to lead to progressive growth, the same degree of irradiation will fail to protect against rickets. Indeed, when there are among the group receiving the amplified diet some animals which have grown poorly, they either fail to develop rickets or manifest it mildly.

"If we translate this phenomenon into terms of clinical medicine, it signifies that the atrophic or marasmic infant—notably unsusceptible to rickets—has, in relation to this disorder, a far less requirement of the active light rays than the rapidly growing normal infant.

"A third factor affecting the potency of light is the intensity of pigmentation of the skin. This aspect also can be demonstrated by a simple experiment. If two groups of rats, one composed of white rats and the other of black rats (the melanotic form of the Norway rat), are given the minimal protective dose of light, it will be found that, although diet and rate of growth have been the same, the black rats will develop rickets, whereas the white rats will show no rachitic lesions.

"Table 2* reproduces the results of roentgenograms and gross and microscopic examinations of two groups of rats subjected to a test of this kind. It is manifest that the protective rays were rendered inert by the integumentary pigment.

"This experiment has a direct application to the well recognized susceptibility of Negro infants to rickets. Some years ago, in the course of a study of the prophylactic value of codliver oil in a Negro district of this city, it was found that the majority of breast-fed infants and almost all the bottle-fed infants showed clinical signs of rickets. In regard to the breast-fed infants, the rickets may be interpreted by some as due to the faulty dietary of the mother. As regards the bottle-fed infants, the dominating factor cannot have been dietetic, for these children obtained bottled milk from the same dairies as thousands of other children in this city. The main distinction is—as demonstrated by the animal experiment—that colored infants require a greater degree of the effective light rays than do white infants. That they possess no racial predisposition to rickets, is evidenced by their freedom from this disorder, in their native homes in the West Indies. The darkness of the skin is, no doubt, a predisposing factor, also, in the susceptibility of the southern Italian, the Syrian and other southern races.

"These statements do not imply that susceptibility is merely a question of degree of pigmentation of the skin, but rather that light is an important etiologic factor in rickets and that, in turn, pigment is an important factor in determining the efficacy of light. How great the importance of light is, cannot be definitely stated, for, as has been shown, this differs according to the diet, to the rate of growth and to the degree of pigmentation of the skin. It is evident, therefore, that its relative importance must vary among different races, in different countries according to the dietary, in cities according to environmental conditions, and in different families according to the domestic regimen."

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12. *Paper*: The Effects of Ultraviolet Rays on the Calcium and Inorganic Phosphate Content of the Blood Serum of Rachitic Infants. Frederick F. Tisdall, M. D., From the Wards and Nutritional Research Laboratories of the Hospital for Sick Children and the Department of Pediatrics, University of Toronto, Toronto, Canada, May 5th, 1922.

Author's Conclusion: 1. Exposure of rachi-

*Not reproduced in this review—Ed.

tic infants to ultraviolet rays from a mercury vapor quartz lamp, for very short periods, caused a marked increase in both the calcium and inorganic phosphate content of the blood serum.

2. The increase in the calcium and inorganic phosphate content of the serum was followed by clinical and roentgenographic evidences of healing.

3. No increase in the serum calcium and inorganic phosphate was obtained by prolonged exposure to the rays from an ordinary 500-watt incandescent lamp.

While the present paper was in press, two articles have been published in which the authors have shown that the exposure of rachitic infants to ultraviolet rays resulted in an increase in the inorganic phosphate in the serum. The authors of the second paper also reported an increase of the calcium content of the serum. Hess, A. F. and Unger, L. J. (*Jour. A. M. A.* 78—1596, May 27, 1922), Kramer, B., Casparis, H. and Howland, J. (*Am. Jourl. Dis. Children*, 24-20-July, 1922).

Comment: It is interesting to see that the Canadian profession is reaching the same conclusion with reference to the reciprocal relation that ultraviolet radiation bears to the therapy of calcium and phosphorus deficiencies, of which rickets is but an example.

Method for Use of Ultraviolet Radiation

Proceeding from the studies given[1], and assuming that the actinic region of the sun's spectrum is essentially involved in the prevention and cure of rickets, this significant fact must be first realized; that the wave lengths of ultraviolet radiation concerned are those impervious to glass. The ultraviolet spectrum of the sun ends at 2900 Angstrom units, or thereabouts. Usual glass panes are transparent to 3022 Angstrom units. So that the sun's benefit in rickets lies in the ultraviolet wave lengths included between 3022 and 2900 Angstrom units[2], or that part of the ultraviolet spectrum that has been designated "biologic" in activity (see *Journal of Radiology*, September 1922 issue and subsequent issues). Obviously, the air-cooled ultraviolet equipment, as distinguished from the water-cooled apparatus, is the instrument of scientific choice in the solution of the problem.

In applying the air-cooled ultraviolet radiation, it is desirable so to arrange the necessary factors of radiation intensity and spectral formula as to insure a maximum energy distribution in the region of the spectrum that operates best in rickets. This is accomplished by regulating the wattage so that the voltmeter reads 70. At this voltage, the region indicated is at its best. The clinical elimination of shorter ultraviolet wave lengths is gained by adopting a long distance between the tube and the skin, which should be 40 inches.

With this intensity, and at that distance, the time of irradiation is next governed by the skin reaction manifested by the patient. For obvious reasons, this should not be too severe, and should be carried to a point usually designated "Stimulative erythema". The factors involved include the endocrine type of the patient, the age and the sex. Speaking generally, with the air-cooled lamp operating at 70 volts, and at 40 inch distance, a stimulative erythema is obtained in the following intervals of time:—

	Light types	*Dark types*
Infants	15 seconds	25 seconds
Children	35 seconds	50 seconds
Females	1 minute	1½ minutes
Males	1¾ minutes	2 minutes

Each subsequent exposure is increased by the same amount of time consumed in the original. For instance, if the child undergoing treatment is a dark type (brunette), the time for the initial exposure is 50 seconds, the second exposure is 100 seconds, the third is 150 seconds, fourth 200 seconds, etc. A good rule to follow in determining the frequency of exposure intervals is that generally recommended in all systemic ultraviolet therapy, as follows: —initiate the degree of erythemic reaction sought, in this instance stimulative. Observe the erythema develop and note especially the beginning of recrudescence. When the erythema begins to disappear, it is an expression that the "Biologic phosphorescence" induced is becoming exhausted, and a second application should be made. This clinical determinant for the frequency of irradiation is useful in that it makes the reactivity of the patient the guide for the amount of treatment necessary. Usually, the frequency is daily, or every second day. Occasionally, highly susceptible reactions are met that extend the intervals to three or more days apart.

In hospital practice, the air-cooled quartz lamp may be placed over the crib or cot of the youngster. The eyes are bandaged to preclude actinic conjunctivitis. The infant or child is bared and allowed to remain in the radiation. If the tube is directly over the center of the crib, and the radiation is at right angles to the plane of the bed, the time given in the preced-

[1] The student should read the original papers listed to gain an adequate background upon which the modern treatment of rickets is superstructed.

[2] This subject was originally investigated and will appear in medical literature at an early time.

ing table is used. If the circumstances are such as to make it necessary to use oblique illumination, an approximate estimate of the angle made by the "center ray" and the bed plane is determined; and according to this angle, the exposure time must be increased*.

Angle of central ray with plane of bed	Additional time of radiation required
90° (tangential)	0
75°	1/10
60°	1/5
50°	1/4
45°	3/5
30°	1/2

Example. A brunette (dark type) child is to receive bed treatment. The initial radiation should be:

Air-Cooled Lamp.

Volts, 70.

Tube skin distance, 40 inches.

Time, 50 seconds.

At the bed, the angle made by the "central ray" with the plane of the bed is 45 degrees; therefore, the additional time required because of this angle is 3/5 more than 50, or 80 seconds (50 plus 3/5 of 50). At the second treatment, the same angle should be used beside the same settings for the lamp 70 volts, 40 inch tube skin distance); and the second exposure time is then 160 seconds, (80 plus 80). The third treatment is for 240 seconds (160-80). When the total time of radiation has reached fifteen minutes per treatment, it is no longer necessary to increase the time, but simply to increase the frequency of treatment.

Summary

1. An abstract summary of the recent studies on the use of ultraviolet energy is submitted.

2. The ultraviolet region responsible for the proved therapeutic action in rickets is established.

3. The method for obtaining this necessary region at its maximum value is given in the choice of the lamp (air-cooled); the required tube voltage operation (70 volts); the necessary distance from tube to naked skin (40) inches.

4. The average exposure time for various subjects is given together with a rule for determining the time and frequency of each subsequent exposure.

5. When other than tangential exposure is used, the necessary fraction of time increase, depending upon angle of ray incidence is given.

*This is governed by the cosine law, elsewhere explained.

Electronic Medicine

By A. I. ARNESON, M. D., Austin, Minnesota

EDITORIAL COMMENT.—With our limited knowledge of electrical problems, we must confess that, theoretically at least, the "electronic concepts" described by Doctor Arneson have a degree of plausibility. Whether the ideas can be worked out in practice is, we believe, an open question. We should like to hear from physicians more competent than ourselves to express an opinion.

THE day of genesis is at hand in the world of medicine. Out of the darkness and chaos, we are at last perceiving the first glimmers of dawn and we feel sure that the time is not far distant when the sun of true knowledge will arise and dispel the clouds and fogs of ignorance, superstition and stand-pattism that prevail in the medical world today.

The agent of these transformations will be the application of modern electronic concepts of matter and energy to the human body in its states of health and disease. Electronic concepts point the way to a rational understanding of the problem of the art of healing just as truly as they do in all other sciences.

Electronic concepts are accepted by all scientists as being the only possible true basis for the explanation of the various phenomena of nature. If this idea is accepted as true of all other things on this earth and in the entire universe, why not grant that it may hold true for the human body as well, and at least conduct a thorough scientific investigation into the matter? To deny the electronic nature of the human body is to deny the electronic nature of everything else. One must then also deny the existence of electricity. One must deny the properties of radium and the x-ray. One must deny the existence of the radio-telephone and telegraph. To deny one is to deny all, for it must be self-evident that, what is true of one, must be true of the other. Things equal to the same thing are equal to each other.

Electronic Medicine being so revolutionary and so totally new to the great majority of us, I shall endeavor to go back to basic principles and explain the propositions in such a way that a better understanding of them may be obtained. Without an understanding of what we talk about, we are unable to form opinions of any value. To help you obtain a good working knowledge of electrons, I would recommend that you study the principles and practice of radio-communication; the spectroscope; the action of rectifier and amplifying tubes and some good treatises on electrons and electromagnetic waves.

Electronic Concepts Explained

Electronic concepts hold that all matter is ultimately composed of one and the same thing in all instances, namely, electrons. In other words, if you could take a grain of iron or of sand and a drop of blood and proceed to divide them up until you reached the finest possible division of each, you would have electrons in each case. Electrons have the property of being in constant automatic vibration. However, although the blood and the sand are composed of the same electrons, these are vibrating at different rates, each at the rate peculiar to the substance it goes to make up. This may be likened to piano strings. Two strings that appear to be identical in every way will have different rates of vibration and produce each its own particular note. The "A" string will differ from the "G" string solely in its rate of vibration. Now, if we could conceive of these piano strings as coming loose from their attachments and flying off into space, yet continuing to vibrate at their own particular rate, we would have an exact analog to the second property of electrons, that of breaking loose from their arrangement in the molecule and resulting in what is known as radio-activity. The rates of vibration determine the nature of the substance it makes up. All substances are composed of electrons and all substances are radio-active.

Electrons are very minute and are considered as point charges of negative electricity. They are so small that they pass through the interstices of our familiar solids, such as iron and steel, as readily as mosquitoes through a Victory Arch. An electrical current is conceived of as being a stream of electrons flowing through the interstices of the wire. Visible light and colors are the effects produced by the impact upon the retina of the eye of electrons vibrating at such rates as to be capable of stimulating the retina and resulting in the sensation in the brain known to us as lights and colors. Each color of the rainbow is due to electrons vibrating at a particular rate which the brain interprets as color.

Ultraviolet rays are electrons vibrating at a little a greater speed than can be detected by the human eye but can still affect the photographic plate and its action thus be made visible. The x-rays are electrons vibrating at still greater speeds and yet affect the photographic plate. Radio waves are waves of electrons generated in various ways which are of very great length, the length of waves being inversely proportional to the speed of vibration. The foregoing may be taken as examples of the various more or less familiar forms of electronic energy.

The Spectroscope

When light from any source is passed through the refracting prism of the spectroscope, the various vibrations are separated and grouped into certain positions resulting in a band of colors, called the spectrum. If the source of light were a perfect white light, we would conceivably have a solid band of color ranging from red at one end to violet at the other. Of these the sensation of red is produced by the slowest vibrating electrons and the violet by the fastest. If something interferes with electrons vibrating at a certain rate, the result is a lack of color at the point in the spectrum where that rate of vibration would have fallen. The absence of color results in darkness. The result is known as absorption-bands, or Frauenhofer-lines. By their position and combinations with other lines, it has been determined experimentally that certain substances may be so recognized. In other words, it is not necessary to examine the substance itself to determine its nature, if we can but determine the vibratory rate of the electrons thrown off by it as determined by the dark bands in the spectrum. For instance, we know that sodium always produces a dark band at a certain point in the yellow portion of the spectrum. If, then, we pass a beam of white light through a solution and discover this dark band in the spectrum, we know that we are dealing with sodium.

This test is absolute. We need none other. Just in such a manner have the astronomers been able to determine the composition of the sun, moon, stars and planets. They do not need to obtain a piece of the sun for that purpose. When they told us, in 1910, that the head of Halley's Comet contained cyanogen gas, we all believed their statements implicitly.

They diagnosed cyanogen gas in Halley's Comet by its electronic vibrations.

Its Value in Diagnosis

The spectroscope is an instrument familiar to all chemists and to medical men as well. It is well known that, by passing a beam of light through a solution of blood, we can determine certain conditions present in that blood. We know that oxyhemoglobin has a different rate of electronic vibration than has hematin, because they produce different dark bands. Likewise, methemoglobin has yet a different rate of electronic vibration. Now, if it is so freely admitted that normal blood, or oxyhemoglobin, has a rate of vibration different from the other conditions mentioned, then it is reasonable to expect that each and every different condition of the body from which that blood came may also have its own particular rate of vibration, and it should therefore be possible to diagnose those conditions by determining the vibratory rates of the electrons making up that blood. If methemoglobin has its individual rate, is it not reasonable to expect that cancer will have its rate, tuberculosis its rate, etc., etc.? So, then, we have a firm basis for a 100% perfect method of diagnosis of disease to take the place of our present methods of guessing. It remains then to perfect those methods by which these electronic vibrations may be detected and measured. Those who have investigated methods perfected to date know that it can be done.

The vibrations will always be at the same rate for any disease, whether it is just beginning or far advanced. This is evident when we consider that a grain of sodium or a ton of it will produce the dark band in the yellow, exactly alike in either instance. If we are to be able to determine the intensity of a disease-condition by electronic measurements, we must then adopt other methods than the spectroscope. The intensity of any electronic reaction is due to the total number of electrons being thrown off in a given period of time. The more electrons thrown off per second, the greater must be the energy produced and the more severe the disease. Modifications of our electroscopes, radio-wave meters, rheostats, etc., offer us a means of measuring the energy thrown off by disease-processes and give us a means of determining the severity of the disease, the chances for recovery and an absolute check-up on the effect of treatment. If we find that the energy of the disease is decreasing, we know that it is being eradicated, and vice versa. Such instruments of measurement would be infinitely more flexible than the spectroscope, because the latter would of necessity be limited to those vibratory rates within the limits of visible light, while the vibratory rates of disease might run over a much wider range.

In Therapeutics

Let us leave the field of diagnosis and see how the electronic concepts may be applied in the field of therapy. We have seen how a solution of sodium produces a dark band in the yellow portion of the spectrum. Let us suppose that that particular vibratory rate of yellow is a disease-rate determined by electronic measurements. We do not want that portion of the yellow; it causes disease. To neutralize those vibrations, we may then interpose a solution of sodium whose electrons are vibrating at a rate similar to that portion of yellow and these similar vibration of sodium will cause vibratory interference with the yellow light and result in a dark band. No disease vibrations being allowed to operate, the result is, health. It is accepted by scientists that this interference of vibrations can only take place between similar vibrations. Dissimilar vibrations can have no effect upon each other.

Drug Vibrations

This then is placing accurate scientific proof upon the principle of "like cures like". Is it too much to hope for that, in the not-too-far distant future, we may perfect instruments by which we can determine the actual numerical vibratory rate of any disease-condition we encounter and likewise of every drug we utilize? Then it will be a matter of going to the drug cabinet and selecting the remedy having the same numerical vibratory rate as the disease and administering that remedy to obtain relief from the disease vibrations. Drugs will then be arranged numerically instead of alphabetically.

Just as the intensity of a disease is due to the number of free electrons thrown off per unit of time, so we know that the efficiency of any drug must be due to the number of free electrons available. If the drug does not have enough free electrons to neutralize the activity of all the disease electrons, then we can not reach health. It has been found that the number of free electrons is greatly increased by strong concussion and dilution of drugs. This means increased efficiency of a drug over its crude or tincture form, and greater curative action.

Likewise is explained the wonderful efficiency of a remedy made by taking a few drops of the patient's blood, diluting it and concussing it

strongly. This breaks up the arrangement and bonds of the electrons within the structure of the blood and gives us a great number of free electrons that are vibrating necessarily at the same rate as the disease of the patient from whom the blood was originally taken.

Exactly similar must be the vibrations of electrons of a serum made from the pus or other discharges of a disease-condition. The process of making this serum must serve to give us a large number of free electrons and it must not interfere with the vibratory rates in such a manner as to change them even slightly. This principle must explain clearly the reason for the all-too-frequent failures of vaccines and serums subjected to various processes of culture, of unnatural media, preservatives, etc.

I mentioned that we might prescribe drugs according to vibratory rates and number of free electrons. When we consider the progress of modern radio sciences, we feel that it is perfectly possible to produce electrical currents composed of electrons vibrating at any desired rate and intensity just as the radio instrument can send out its messages of electronic waves at any desired rate. Then we will only have to set our dials on our electrical instruments to the determined rate of vibration and intensity and apply the curative current at will.

Health and Disease the Results of Correct or Incorrect Vibration

We have stated that every substance has its own particular vibratory rate. Then each organ and structure within the body must have a different rate. We may again use the simile of the piano. When all the strings (electrons) are vibrating at their normal rates, we have a state of harmony (health). Let one or more of these strings (electrons) vibrate at a wrong rate, and the result is discord (disease). If a plug rests against one of the wires, the result is either discord or a greatly weakened note. Similarly, with the body, we must remove the cause of the trouble before applying our curative vibratory rates if we expect to cure our patient, just as we must remove the plug from the wire in the piano if we expect to place it in tune again.

The sympathetic nervous system serves to control the growth and function of every structure of our body. Any interference with the proper function of any part of this system must necessarily be followed by a disturbance of growth or function of some part of the body. In electronic terms, this nervous system serves to correlate the vibrations of the different organs and parts of organs so as to keep up normal vibratory rates, or a state of health. It serves to maintain harmony and it also serves as a medium of transmitting supportive vibrations from one structure to another so that, if one structure be subjected to undue stress and strain, the energy transmitted from other parts serves to bolster up the resistance of the attacked organ and overcome the possible causes of disease. This principle applies to the entire nervous system. Any irritation, short-circuit or other lesion is bound to result in discord, or disease. To cure the patient then, you must see that the nervous system is in as nearly perfect a condition as possible, correcting any and all lesions as nearly as possible. To leave behind such lesions, is just as negligent as to leave a sliver in an abscess. This applies to all the points of nervous vulnerability, whether it be at the rectal or urinary orifices, the eyes, the spinal orifices or whatnot.

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I have tried to put in plain terms the basic principles of Electronic Medicine and something of the practical applications thereof. We soon discover that the most useful methods of treatment we have had at our command have operated absolutely according to electronic principles. These methods have been discovered and developed empirically and proven successful in the test of time, though without any basic foundation for the explanations of their *modus operandi*. These principles are showing the way to new methods and to perfection of old methods. They will take the guesswork out of diagnosis and therapy. Just now, we are witnessing a grand orgy of bizarre surgery and endocrinotherapy. Would it not be convenient to be able to measure the electronic energy of any of the endocrine glands, for instance, and determine with mathematical accuracy whether they are normal in energy or hypo- or hyperfunctioning?

I want to plead for democracy in medicine. It is the patient that suffers for our quibbling and narrow-mindedness: Those who know only drugs and surgery need to know about spinal and other drugless therapy. The spinal healer needs to know surgery and drugs. And this holds true for all schools of healing. All are good for certain cases. Some patients need all forms of treatment before a cure can be accomplished. Surely, it is not right to insist on treating your patient with drugs only, while you are leaving untouched some lesion of the sympathetic nervous system that keeps up the disturbance. And, you can not do justice to your patients unless you are thoroughly familiar with all these methods.

I have tried not to mention a single school of practice, a single specific treatment, or a single individual. If the principles as outlined seem correct and hold out hope for possible aid in solving the problem of disease and the cure thereof, then you owe it to yourself, to your patients and to your God to learn what is of value in these methods and to use that. The methods in question are just beginning to develop. Often we will be wrong, but the principles are right. May we not expect to improve?

Idiopathic Epilepsy

By B. W. ABRAMSON, M. D., Chicago, Illinois

ANATOLE FRANCE, the celebrated French writer, is quoted as saying that diseases, the horror of man, have names that are the horror of the philologist.

To me, the word "idiopathic" is the most hateful one in the medical vocabulary. A classmate of mine defined this word very graphically as meaning: "I don't know a thing about it." Indeed, though the expression is intended to conceal, nothing reveals more our ignorance and our impotence about a goodly number of the most common diseases that afflict mankind than this word. We might as well designate measles, scarlet fever, anterior poliomyelitis, cancer and even influenza as "idiopathic" diseases.

Yet, the knowledge of our ignorance is not without merits of its own; it acts at least as a stimulus to seek for further knowledge and greater enlightenment on subjects which, we frankly admit, are still *terra incognita* to us.

Thus, I remember distinctly that, even during my student days, a period in one's life when, just like before New Year's Day, all good resolutions are made, I promised myself a little closer study of epilepsy. My interest in this obscure disease was enhanced to a still greater degree by the following episode in our school life.

A class mate of mine began to circulate among the rest of the students the news that he had discovered a sure cure for epilepsy. He was unscrupulous enough to let these glad tidings spread among the credulous victims of this disease and, if one may measure results by the number of dollar bills he flashed before us poor devils, his remedy was quite a success. But, therapeutically he must also have been a success; for, I have seen in his possession a number of authentic letters of gratitude written to him by his numerous patients; some of whom had even offered to build a laboratory where his "wonderful discovery" could be manufactured.

A tragic incident put an end to the schemes of this malicious would-be benefactor of mankind, and his secret was disclosed. The facts in the case were as follows: A lady friend of his asked him for an emmenagog. He prescribed for her oil of tansy which, surprisingly, acted in her case not only as an abortifacient but also, in some obscure manner, stopped completely her epileptic attacks from which she had suffered for a number of years, without getting any relief, although she had been under the care of the best neurologists of Chicago. She told him about the marvelous effect of the drug and, ignorant as he was, he jumped to conclusions, that oil of tansy is a specific for epilepsy. He soon began to prescribe it for other patients afflicted with epilepsy, always in increasing doses, until one day, he administered a big poisonous dose to an Italian woman, which killed her. Lucky it was for him that the husband of this unfortunate woman was glad to get rid of his invalid wife and, instead of bringing charges against him, was the best witness for him in the court. His punishment was but a small fine for practicing medicine without a license and he also forfeited his right to ever practice medicine again. Thus was shattered a career of an otherwise able fellow on the rocks of ignorance which is still like a raging sea covering the earth.

Obscure Etiology of Epilepsy

Epilepsy is still an obscure disease. No one has as yet offered an exact explanation of its mechanism or its principal cause. Many theories have been advanced all of which are partly right, showing thereby that it is probably best not to regard epilepsy as a disease entity, but rather as a syndrome reaction to various pathologic conditions, the exact nature of which we can not determine at the time.

Those who claim that epilepsy is due to the absorption of toxins are undoubtedly correct in some cases. I have observed, in my own practice, four cases which I could trace to alimentary autointoxication and was able to rid them of their attacks by modifying their diet.

Two Danish writers, Bisgaard and Norvig,

are quoted by Dr. D. V. Stuart (1) as ascribing epilepsy to a deficiency in parathyroid glandular secretion.

The endocrine system is blamed by other investigators; Bambaren (2) has observed that epilepsy can be divided in two distinct groups; the endocrine group and the cerebral. The first group may be due to a deficiency in any of the endocrine glands, while the second may be of toxic infectious or traumatic origin. Physical malformation or tumor may play a role in the production of the disease.

Douglas Symmers (3) claims that epilepsy stands in a certain relationship to the condition of status lymphaticus, since it is observed that, in a number of individuals, convulsions stop at an age when involution of the thymus takes place.

Fright is considered by some as a cause of idiopathic epilepsy. E. A. Tracey (4) reports a case of a child, without a predisposition to the disease, in whom fright had produced idiopathic epilepsy. Also, Gowers (5) relates the story of a sentinel who was on guard duty near a church yard. A white goat ran across the church yard and jumped upon a low wall. The soldier was convinced that it was a ghost; he stood with terror, but was unable to leave his post. An epileptic fit soon followed which was succeeded by others. Gowers' explanation of the mechanism is interesting and I quote him verbatim: "The disturbing effect of fear seems greater when it cannot have its normal consequence; namely, the escape from danger, necessary for the energetic discharge of the motor centers. There is action upon them, but the effect is a perverted one; it disturbs their nutrition and deranges their function. The immediate effect is seen in the trembling; the remote effect is seen in such maladies as epilepsy, chorea and paralysis agitans. A true epileptic fit never follows fright instantly." This explanation is in agreement with Gowers' definition of what epilepsy is. To him, epilepsy is a recurring, sudden discharge of nerve energy in some part of the cerebral cortex not due to the normal cause of such discharge. A more modern definition reads, that epilepsy is due to a constitutional instability of the motor cortex which renders its victims liable to profound unconsciousness, accompanied by motor explosions. The only difference between the two definitions is, that the latter is symptomatically a little more descriptive.

Other etiologic factors, such as age, sex, local irritations; as they occur in infants during dentition, in the onset of infectious diseases, in the presence of worms, phimosis, etc., are sufficiently discussed in textbooks of medicine and in the voluminous literature on the subject, and a more detailed discussion of them would be a useless repetition.

The most characteristic predisposing factors to which I would like to call attention is, the fact that epilepsy is a recurring disease; one attack predisposing to another as though the trauma to the nervous system resulting from the first attack were directly responsible for the second. Often times, when it is possible to break this vicious circle, or the chain of causes and effects, which is so characteristic of this disease, a complete arrestment of the disease may take place.

Heredity undoubtedly plays a great role in its etiology. The majority of cases are found in members of neuropathic families, and what is more noteworthy than that mental deterioration is more pronounced in those epileptics that come from tainted families than in those in whom no familial tendency towards this disease can be ascertained.

Diagnosis of Epilepsy

The diagnosis is chiefly based on the characteristic symptomatology and upon the fact whether or not another definite disease is the underlying factor of the epileptic attack. It is the differential diagnosis that taxes the ability of the diagnostician. A novice in the practice of medicine can recognize an epileptic attack, if he only remembers the textbook description of it. What is important is, to rule out other diseases that may bring on epileptic seizures. We know, for instance, that cerebral lues, general paresis, brain tumors, disseminated sclerosis and also hyperthyroidism often manifest themselves by convulsions simulating those of epilepsy.

It is Savory's opinion (6) that epileptic convulsions, suddenly appearing in adults without a previous history of attacks and also without a familial history, should always be considered as symptomatic of syphilis.

In other words, we must arrive at a diagnosis of idiopathic epilepsy by a process of exclusion rather than base it on mere symptomatology.

As stated, the symptom complex of epilepsy is very characteristic and I need not dwell on its description.

The more interesting phase of its symptomatology is the period, or state, existing an hour or two before the attack takes place. This state, called the "warning" or aura, takes on many different forms and, in many cases, the premonitory symptoms are more troublesome than the attack itself. Especially danger-

ous are they in the epileptic insane, whom I had a chance to study while on the medical staff in an institution for the insane. In one case under my care, there was a tendency in the patient to inflict bodily injury upon himself. Attempts were made by him to cut his fingers with any steel instrument that he could get hold of or, when this was impossible, he would continually slap his face with the palms of his hand until oozing of blood would take place from the hyperemic skin. Whenever he would do this, even the orderlies would know that "this man is going to have a fit". The psychic equivalents are still more dangerous since, in some cases, they take on homicidal impulses and many a murder has been committed under their influence.

Pathology of Epilepsy

The word "idiopathic" refers not only to our meager knowledge on the direct cause of this disease. It is morover referable to our inability to find any pathologic change in the anatomy of the brain and its adjacent structures. Spasms of the arteries were considered as a cause of an epileptic fit, but this idea was given up long ago.

The cerebrospinal fluid was investigated before and after an epileptic attack; but no marked abnormal findings could be demonstrated although changes in it were sought for.

Dufour (7) claims that there is an increase in the urea content of the blood and in the spinal fluid; other investigators, like Pierre Marie, dispute his assertion and state that there is an increase only following the attack. The latter's findings are not at all surprising, since the clonic muscular spasms taking place during an attack may be responsible, as is all other muscular activity, for an increase in metabolism, giving rise to an increase of urea and other nitrogen oxidation products.

The Author's View of Epilepsy

I am of the opinion that the epileptic attack is of an anaphylatic character, in which a two-stage reaction takes place. First, the sudden absorption of a toxic product similar in its molecular structure to the strychnine group of poisons; which is responsible for the clonic muscular convulsions resembling those seen in strychnine poisoning. The second stage, the stage of detoxication, in which intermediate products are formed similar in character to drugs of hypnotic or cerebral-depressant action, which is responsible for the deep sleep that follows the attack; which is by the way a compensatory phenomenon on the part of nature for the restoration of the excessive amount of energy of which the system was so suddenly depleted during the convulsive stage. This is, of course, only an hypothesis on my part and I would recommend a more scientific investigation of this point.

The hypothesis here presented may perhaps offer an explanation why the bromides are so successful in aborting attacks and preventing their recurrence. It may be possible that, by supplying to the system a substance similar to the one produced within the organism during the second stage, a neutralization of the first substance takes place and its deleterious effect is held in abeyance.

Treatment of Epilepsy

This brings me to the question of treatment which has been, heretofore, and is even at the present time, very unsatisfactory.

The administration of bromides is purely empirical and all it can accomplish is, to keep the attacks in check; never, to cure the disease. It is an established fact that, the minute you take off your patient from the drug, the attacks are sure to come back.

The drawback of bromide administration is the fact that eventually the drug causes gastric disturbances, unpleasant skin eruptions and, as believed by some, mental deterioration.

During the last few years, luminal, a German preparation of the barbital group has been hailed as the drug, *par excellence*, for epilepsy. American and foreign neurologists place its therapeutic value above that of the bromides, and they are unquestionably right.

Grinker (8) points out the following advantages of luminal. It is prompt in its action: it is not a habit-forming drug; it is not harmful to the system when given in properly regulated doses; the effect upon the mentality of the patient is surprising; there is a complete absence of the mental torpor seen so frequently in those who take bromides. J. Rabinowitch and Lauzier (9) claim that luminal is superior to all drugs given heretofore and state that it is especially helpful if given in conjunction with the bromides.

H. Codet (10) reports on 31 cases treated with luminal, with excellent results. My personal experiences with luminal are in accord with those of Codet and Grinker. The most important thing about luminal is, to administer this drug in doses never larger than 2 grs., because after-effects may result from larger doses. Zimmermann (11) reports such a case in a patient in whom vertigo, vomiting, disturbed vision and headache followed the administration of a 5-gr. dose. Another after-effect is recorded by Lutz (12) and that is, that an exanthematous rash, resembling that of

measles or scarlet fever, often follows the taking of luminal.

The chief drawback, however, is the same that is held against the bromides; namely, that luminal must be given continuously for a period of several years; otherwise the symptoms recur.

Etiologic Treatment

The most rational way of treatment, in addition to drug therapeutics, is the diligent search for the underlying cause and the removal of any and all factors that may be a source of irritation or form a focus of systemic poisoning.

There is a great deal of truth in Crile's supposition that the chief seat of autointoxication, so often responsible for epilepsy, is found in the large intestines. However, the cutting out of several feet of it, for the treatment of epilepsy and other obscure mental diseases, seems to be rather heroic treatment, since we do not know definitely as yet just what the functions of the large intestines are more than to serve as a mere receptacle and condenser of intestinal excreta. Dr. Diens (13) informs me that the large intestines is the place of immunity for such diseases as dysentery, cholera and typhus exanthematus. Yet, it behooves us to have Dr. Crile's opinion in mind and always direct our attention to the alimentary tract, when treating epilepsy.

As stated in the beginning of my paper, four cases of epilepsy under my care were completely cured when I modified their diet and prohibited the excessive ingestion of meat.

Other intoxications may be responsible for the presence of epilepsy, of which tuberculotoxins play the chief role. Prof. Weleminsky treats all cases of epilepsy of an unknown origin with his own tuberculin preparation (Tuberculomucin) and records a number of successes. Endocrine products are in many cases very helpful and should be tried when endocrinopathic stigmata are present. What is most important is, to treat each epileptic as an individual case and select the treatment appropriate for him, never losing sight of any of the suggestions outlined in the foregoing.

Conclusions

1. Epilepsy is an obscure disease still baffling the medical profession.
2. Autointoxication, disturbance in the endocrine system, status lymphaticus and emotional shock are considered to be causative factors.
3. No definite pathology is present in this disease.
4. The hypothesis is offered that epilepsy is an anaphylactic phenomenon due to a sudden introduction into the system of two toxins; one resembling strychnine, the other an intermediate oxidation product of the first, resembling in its action the hypnotic or cerebrodepressant drugs.
5. Suggestions for treatment are: The removal of local causes of irritation and foci of intoxication; the administration of luminal in preference to bromides; the application of specific tuberculin preparations when a tuberculous diathesis is suspected and also the giving of glandular products if endocrinopathic stigmas are in evidence.

Bibliography

1. Stuart D. V., Jour. A. M. A. Vol. 75, 1920, No. 14, p. 432-3.
2. Bambaren, Anales de la Facultad de Med. Vol. 3, 1921, No. 15, 221.
3. Symmers, Douglas, Nelson's Loose-Leaf Encyclopedia, Vol. 3, p. 323.
4. Tracy, E. A. *Endocrinology*, Vol. 4, 1920, No. 2, p. 221.
5. Gowers, R. R. Allbutt's System of Medicine, Vol. 7, 1899, p. 758-97.
6. Savory C. H. *The Lancet*, Vol. 2, 1920, No. 6, p. 294.
7. Dufour, Pierre Marie, Nelson's Encycl., Vol. 6, p. 104.
8. Grinker Julius, *Jour. A. M. A.*, Vol. 75, 1920, No. 9, p. 589.
9. Rabinowitch, J. & Lauzier, Ann. Med. Psychol. Vol. 79, 1921, No. 2.
10. Codet H. *Progrès Méd.* Vol. 35, No. 39, p. 425.
11. Zimmermann, Therap. Halb-Monatschr. Feb. 1920.
12. Lutz, Therap. Halb-Monatschr. Aug. 15, 1921.
13. Diens, L. Privat-Dozent Budapest University, Personal Communication.

I HAD rather be a "was" than a "has been".

Dr. A. "was" a good doctor, implies that his patients regret that his services are no longer available.

Dr. A. "has been" a good doctor, means that he is no longer one and his present ability is in doubt, in the race for supremacy he has been passed by more youthful competitors.— (From "If I Were a Doctor", in *R. I. Med. Jour.*, June.)

Does an Intimate Relation Exist Between the Female Generative Organs and the Central Nervous System?

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EDITORIAL COMMENT.—It has seemed to us, as long as we have been in medical practice, that the question asked by Doctor Sherwood-Dunn in the title of his article must be answered affirmatively without requiring any discussion. The more surprising is his account of a statement made by a neurologist friend of his, according to which contrary opinions appear to be held by certain neurologists. In our opinion, the relationship between the female generative organs and the central nervous system is so self-evident that a doubt could hardly arise. Since it has arisen, we are glad to offer our pages to its discussion.

PRACTICING my profession in two of the most popular of French resorts, Nice and Aix les Bains, accords me the opportunity and privilege of meeting people coming from all parts of the United States, more so than would be my good fortune in any American center.

In a recent conversation with an old friend and colleague, one of the best known of American neurologists, he delivered himself of the opinion that "The disorders of a woman's pelvic organs have no more to do with her nervous and mental diseases than lesions elsewhere in her body; indeed, they have less to do with her psychoses and neuroses than most of her other organs."

Although my attention is now devoted to general medicine and surgery, this expression of opinion from an American authority is so totally opposed to my former experience, over a period of twenty-five years, as a gynecologist, that I set myself to write this paper in controversion of this expression of opinion. I look upon the position taken by some of our colleagues in neurology, that there is no relation of cause and effect between the various neuroses and psychoses and the diseases of the female pelvic organs, as being as extreme and subject to condemnation as would be the advocacy of the removal of normal organs in the female pelvis for the cure of nervous diseases, by some ill advised persons calling themselves gynecologists.

In operating upon diseased organs in the pelvis, we do not expect to remove the symptoms of neuroses but only those symptoms properly belonging to the pelvic disease itself. But, strange and disappointing as it may be to some of our critics, when these pathologic pelvic conditions are removed or corrected, the nervous system, relieved from the source of unceasing irritation, gradually returns to its normal poise, and the patient is cured of her neurosis as well as her pelvic disease.

Differing Viewpoints of Neurologist and Gynecologist

The fact of the matter is, that disease of the pelvic organs and affections of the nervous system are so frequently concomitant and interdependent that the neurologist is, by far less likely to give due and proper consideration to the pelvic troubles than the gynecologist to the neuroses, because of his lack of practice and his natural repugnance to propose and pursue vaginal examinations upon the patients that come to him; whereas, in the routine questions that form the history taken of every important case by the gynecologist, the neurotic and psychotic conditions present themselves and are given the consideration which their importance demands.

The study of, and acquaintance with, the great neuroses and psychoses is forced upon the gynecologist by the very nature of his study and treatment, whereas the patient going to the neurologist does not expect, and in some cases would refuse, a pelvic examination at his hands.

In point of fact, the neurologists see but a small percentage of the operative cases, and their views upon the whole subject are prejudiced by this exceptional class as well as by their imperfect and limited knowledge of the special department of the diseases of women.

I will venture to say, there is not a prominent gynecologist but has seen numbers of women having diseased pelvic organs and with pronounced nervous symptoms, who have come to him after having had the rest cure, electric and various other treatments, and were restored to health by the cure of the pelvic le-

sions through operation. The position taken by many neurologists, with respect to operations upon the sexual organs of women, is unfortunate for this class of cases, and it is well to remind them that remarks prejudicial to operative treatment act in the way of suggestion upon neurasthenic and hysterical patients just as surely and detrimentally as does the unwarranted pelvic examination.

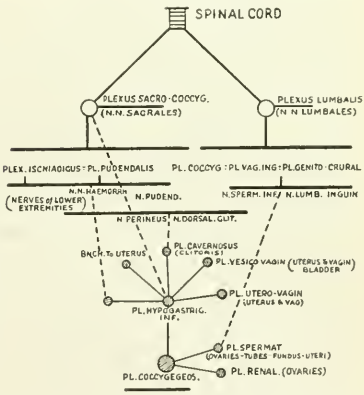
Dr. Bedford Fenwick mentions having examined a large number of cases in his woman's hospital in London with a view of ascertaining the number of patients that complained of symptoms directly associated with their pelvic troubles. Taken as they came, only 10 percent complained of symptoms directly connected with the pelvic organs; the remainder giving histories of troubles having no apparent connection therewith and descriptions of which he gives in detail.[1]

Nor does it follow that the pelvic disease shall be gross in character in order to give rise to local symptoms. I pointed this out in a paper I presented before the American Association of Obstetricians and Gynecologists, in 1897, showing that micropathological change in the ovary frequently gives rise to more excruciating pain and far-reaching reflex symptoms, than do those of a grosser character which are more easily diagnosed.[2]

I think the majority of gynecologists is so unanimously in accord that we may take it for granted that the uterus and ovaries, in their complex and subtle physiological relationship and especially when functionally or organically diseased, react and make manifest their effect on other organic functions (especially those of the nervous system) more quickly than is the case with disease of any other of the viscera. This view is supported by a consideration of the anatomical connection of those organs with the cerebrospinal system through the splanchnic nerves and spinal cord in the sacral and lumbar regions, as well as through the pelvic and hypogastric plexuses of the sympathetic nervous system. It is to this connection that we must look for the reflex phenomena that follow stimulation or irritation of the uterine or ovarian nerves. The accompanying diagram, taken from an article by Drs. Pearce and Beyea, shows the nerve distribution and relationship (Fig. I).

Neurasthenics and Chronic Fatigue

Hodge demonstrated, a long time since, that neurasthenia results from a loss of substance of the nucleus and cell protoplasm, expressive of wear and tear, that is the inevitable result of fatigue. His experiments were made upon animals and birds and were conducted in a manner that left no doubt as to their accuracy. As a result of any continued reflex action, therefore, which denies to the neuron time for recuperation, we have produced a pathological condition which is seen in the shrinkage of the nucleus and cell substance, which robs the neuron of its functional ability to transmit the normal nerve influence, and gives rise to the chronic fatigue symptoms of which all neurasthenics complain; and these symptoms pertain to every part of the system, muscular, the special senses, mental, digestive and derangement of the nutritive interchange. The neurasthenic unit is a nerve force quantity. It may be a quantity in excess of the normal or a quantity less than the normal. It may be nerve force out of balance or nerve force delicately poised. It may be perverted nerve force. It



may be nerve force overpowered by inhibition or it may be controlled by a condition corresponding to a short-circuited electric cell in which all inhibitory power is lost. The protein manifestations of the neurasthenic state are accounted for, and only accounted for, by a condition of varying values. The neuron's molecular relation to the electric current has not been determined, neither has the nucleus and cell-protoplasmic relation to the nerve-force current been made out; but the neurasthenic condition doubtless travels in the direction of least resistance. Nervous demand has the power of attracting nervous supply in some way, but, instead of the nerve centers supplying the demand with normal nerve force, the centers supply a pathologic nerve force or, nerve force at irregular intervals.

[1] *British Medical Journal*, Vol. IX, No. 34, p. 153.
[2] Transactions of the Society, Vol. X, p. 233.

With the conceded ground that the pathological condition is brought about by the influence of a too-unrelaxed subjection of the nerve cell and protoplasm to functional activity, let the source of this activity be what it may, the source of this irritation must be corrected if the patient is to receive any permanent benefit.

If neurasthenia is the result of a change in the nerve cell due to too-great exercise of its functional activity, then disease of the pelvic organ furnishes the most frequent source of this irritation and, as the primal cause, must be corrected if a cure is to be effected.

The rest cure, tonics, and liberal diet may improve the condition of the neurasthenic suffering from pelvic disorders, but her condition becomes as bad as, and often worse than, before when she is removed from the favorable environment and is again subject to the care and occupations of daily life.

Dangers of Adolescence

During childhood, the body rapidly grows and develops in all parts, excepting the generative organs; these remain comparatively quiescent until the age of puberty, when they take on extraordinary activity and seem to strive for development at the expense of all the other forces. Unfortunately, at about this age, our girls become more interested and ambitious in their studies, and it is astonishing to see the amount of work some of them will strive to accomplish.

The hours of continual application, which the less mentally capable among them have to undergo, and the truly heroic efforts they put forth trying to keep pace with those of brighter intellect, are ruinous to physical development. These are the girls who, if they do not break down in the effort, accomplish their mental tasks at the expense of the pelvic viscera and early come into the hands of the physician, with infantile organs, subject to neurasthenia and others of the great neuroses.

No thoughtful mind can reflect upon the nervous relations and requirements of this period of life and escape the conclusion that the proper development of the organs of reproduction demands full nutrition and plenty of oxygen, best secured by freedom from indoor confinement and taxation of the mind. Failure to recognize this leads in many cases to pubescent disorders and fastens a neurosis upon the victim.

The poisons of fatigue are generated more rapidly in the girl of eleven to thirteen than at any other period, as has been shown by de Widensky and by Mosso and Maggiori, the Italian chemists. The blood supply is no greater at the pubescent age than any other, and by some it is claimed to be less; yet, the demands upon its elements is greater than at any other time of life. Brain fag in school children at this age is of common occurrence and nature is a strict accountant; if she supplies more to one part than she has made provision for, she deducts from something else.

In the errors of adolescence, in defective growth and consequent disorders of the normal function of the generative organs, lies the cause of the neurosis and even of insanity, in many cases. Dr. Gill Wylie says that imperfect development may result in a hyperesthetic condition of the endrometrium, prevent normal atrophic changes, and cause serious reflex nervous disturbances.

Constant Relation Between Generative Organs and Nervous System

There is no time in a woman's life, from puberty to old age, that we do not have presented before us the intimate physiological relation between her generative organs and the several nervous systems, and through these, to every organ and part of her body.

The acme of adolescence is an example of the influence of these organs upon the skin. The reflex connection between the mammary gland and these organs, during the menstrual period, can only be accounted for through the nervous system. By what other influence are we to account for the malaise, slight nausea, headache, disturbed vision, flashes of heat, constipation or diarrhea, localized areas of hyperesthesia and mild form of hallucination, all of which are sometimes and, in some patients, constantly present during the catamenia; making their appearance with its onset, subsiding and disappearing with its close?

The intimate connection of the cortex with the ovary is shown by the fact that cortical disease arrests menstruation. These physiological relations we are intimately acquainted with and, if they are present, I wonder who is going to convince us that, in the presence of pathological changes, the influence of these organs upon the nervous system will not be more pronounced; as, for example, the occurrence of various shades of optic neuritis and retinal irritation in connection with the suppression or irregularity of the catamenia, slight epileptiform seizure of the facial muscles, laryngeal neuralgia, functional aphonia, tinnitus aurium and vertigo.

As a consequence of menstrual irregularities, we find painful irritation of the dorsal and lumbar spinal zones, functional irregularity

of the cardiac rhythm, gastralgia, slight icteric attacks, irritation of the bladder with frequent micturition, varieties of headache and severe hemicrania. All of these symptoms can only be accounted for as reflex vasodilating or vasocontracting phenomena, the result of irritation in the uterus or ovaries, arising from imperfectly performed physiological functions. We have all seen the acute disturbance of the menstrual function as a result of mental or physical shock, cold, heat, or great bodily fatigue.

The spasmodic form of dysmenorrhea, which, at one time, largely occupied the attention of the medical profession and which gave rise to as many forms of treatment as there were students of its phenomena, was readily explained and controlled after Dujardin-Beaumetz had shown that it was caused by anemic or toxemic blood.

Uterine Disease and Neurosis

There is perfect truth in the claim of the neurologist that ill health in women is frequently the cause of her uterine troubles; but it is even more true that the various diseases of the uterus and its adnexa are the exciting cause of ill health that frequently makes its appearance throughout her whole system. To the great mass of clinical evidence supporting the close relation of the brain and nervous system to the organs concerned in the genesis of the human race, additional and conclusive proof is found in the physiological development, maintenance and decline of the normal reproductive period of life. Why then, in the presence of a neurotic tendency, should there be a doubt as to the evil effect upon the nerve centers when pathologic conditions attack these complex and delicately constructed organs, which so often give reflex evidence of their extreme sensitiveness to the action of their physiological functions and constantly show their great influence over the central nervous system? Brown-Séquard said that the genitourinary organs were the most closely allied to the central nervous system of any; an opinion which gynecologists in general will endorse.

Immediately preceding and during the opening of the catamenia, many women present typical symptoms of nervous exhaustion and malaise not relieved by rest, dull headache, vertigo, alternating flashes of cold and heat due to vasomotor weakness; palpitation due to lack of proper nerve coordination; weakened will power often extending to hysterical outbreaks; nausea, defective vision and sometimes diarrhea or temporary constipation. Winschild has called these symptoms of nervous exhaustion acute neurasthenia. In those cases where there are gross pathological changes (as, for instance, in those suffering with marked displacement of the uterus, with adhesions, extensive laceration of the perineum and cervix, the latter everted, completely eroded and ulcerated, edematous and tumefied ovaries, with multiple fibroid growths in the uterine wall), there is need for prompt and complete operation which, in the majority of cases, will restore the patient to health and nervous equilibrium; for such a case to hope for relief under the various classic treatments at the hands of the neurologist, is grotesque.

Nervous Exhaustion in Mothers

On the other hand, picture the case of an American woman, born and reared in the midst of luxurious surroundings, who marries at an age under twenty-two, bears four or five children within a period of six years and, following the practice and instincts of the majority of American mothers, undertakes to supervise the physical care of her children, not willing to leave them to the care and consideration of a hireling, particularly during the night. At about the end of this time, the majority of these mothers become physically and mentally broken. They complain of weariness, nervousness, insomnia, inability to walk any great distance, constant bearing-down feeling in the pelvis, headache, both occipital and frontal, backache, disagreeable dampness of the hands, irritable bladder, hyperesthesia, points of tenderness in both ovarian regions, dysmenorrhea, dyspepsia, bad dreams, constipation. With ordinary common sense, she attributes this tableau of symptoms to the strain of the rapidity of her child-bearing and presents herself to the gynecologist. Upon examination, she has a slight tear in the cervix, slight rectocele and cystocele, relaxation of the ligamentous supports, permitting easy manipulation and displacement of the uterus. Both ovaries are sensitive to examination. This is a practical case for treatment at the hands of the neurologist. There may be those calling themselves gynecologists who would magnify the importance of the local pelvic condition and recommend several plastic operations as a cure-all. But it must be said that they are not representative of the intelligence of this department.

There is no condition under which one could say that he was operating to cure either hysteria or neurasthenia. Gynecologists operate to cure pelvic disease; but, often, the cure of these neuroses follows.

I will venture to say there is no class of physicians who are more methodical, systematic, or thorough in the examination of their

patients and there is no specialty in which there is a greater mass of statistical records than in that of gynecology, and this comes from the almost universal habit of keeping the history books. The market is full of innumerable varieties of them, a proof that they are in demand.

As to Hysteria

I am quite clear in my mind as to the relation of neurasthenia to many forms of pelvic disease, but not so with hysteria. As this disease is the greatest subject of controversy between the neurologist and gynecologist, I want to record my opinion and make clear my stand in respect to it.

This disease presents itself under such a variety of forms and with such a bewildering tableau of symptoms, that I should in any and every case hesitate in a diagnosis of cause, and qualify my prognosis as to results in every case of surgical interference. We all have seen cases with gross pelvic lesions and markedly grave hysterical symptoms dating from or after the commencement of the pelvic lesions, and which at first sight seemed to spring from the pelvic disease. It is then only logical to think that the removal of the evident source of irritation would correct the nervous trouble. Yet, the hysterical seizures frequently persist after operating. On the other hand, there are clinical facts that repeat themselves in the writing of every prominent operator and which prove that the correction of pelvic pathological conditions does cure hysterical phenomena. The hysterical state is very largely self-propagated; that is to say, when hysteria causes a yawn or a crying spell, the way is paved for the second yawn or crying spell to take place much earlier than did the first. When the hysterical manifestation travels in the direction of the involuntary functions, its production is more frequent and more damaging. Primarily this state is always the product of a weakened or non-resistant will and it therefore is a pure psychosis.

Hysteria and neurasthenia are often associated and, when so related, are difficult of differentiation; as to just how much of the symptomatology is due to the one or the other, it is difficult to say.

It can be said that, whereas the symptoms of neurasthenia are seen most evident in the motor system, derangement of normal and general somatic functions, those of hysteria are more pronouncedly psychical, with emotional outbreaks and loss of will power.

When this disease affects the motor system, the evidence is pronounced, as in paralysis, tremors, phantom tumors, etc. But, far more common than these are the symptoms of anesthesia and hyperesthesia; the latter often seen as inframammary tenderness and what used to be called ovarian neuralgia. My friend, Professor F. X. Dercum, has for years shown, by ingenious bimanual palpation, that this pain, in the majority of hysterics, is a superficial inguinal hyperesthesia.

The cautious care exercised by my celebrated Master, Professor Charcot, in approaching every case of hysteria, has given me an exaggerated respect for this disease and experience has taught me to be exceedingly guarded in my prognosis as to any benefit that may follow operations, when it is present.

Unlike in neurasthenia, no fixed morphological pathology has been discovered for this affection, and we are totally unacquainted with its etiology. We know that it has a tendency to run in families, and that it is cured by all sorts and manners of treatment. We know that it is met with most frequently in those of neurotic diathesis and, in consequence, continued nerve irritation from any source is liable to start it into activity. It is frequently seen in connection with disease of the pelvic organs; yet, it often persists after the pelvic disease is cured. On the other hand, pelvic operation has often cured a patient of hysteria; still, innumerable other treatments have cured it also.

In our consideration of hysteria, as a psychosis in which the predisposition may be brought into active manifestation by a multitude of *points de départ*, among which can be counted diseases of the pelvic organs, these diseases must be given due consideration in the etiology and treatment of various forms of insanity. The clinical facts that are being collected, following the work of the gynecologist upon the insane, are bound to command and cannot fail of careful consideration by both, the medical profession and the laity, the result of which will, in my opinion, at no distant day, make the gynecologist one of the regularly-appointed staff to the asylums for the insane.

A consideration of this part of my subject, and the wealth of recent literature bearing upon it, would lead me far beyond the proper limits of this paper. There is a great mass of clinical evidence supporting the statement that the removal of pathologic conditions in the pelvis of the female is frequently followed by the cure of the great neuroses and of insanity.

The Influence of Odors on the Human Body*

By EDWARD PODOLSKY, Brooklyn, New York

THE influence of the sense of smell over the body is one that has been noted from very early times. The Greeks recognized the influence of sweet odors on the body and well knew of its happy effects on the digestive system. According to Athenæus, they made use of scent-bags for sweetening the air as they sat at table. Several centuries later, John Evelyn proposed to make London the healthiest and happiest city in Christendom by planting around it hedgerows of sweetbriar, rosemary, and jasmine.

In fact, at a certain period, the sense of smell was so much thought of, that Professor Gustav Jæger wrote a book, *Die Entdeckung der Seele*, in which he tried to prove that smell is the most important of our senses, the olfactory nerve being the seat of the soul! This should not be so surprising, for, the sense of smell has indeed the power of evoking the most pleasurable and desirable emotions.

Prophylactic Odors

The use of perfume, it might be said, is to a very high degree prophylactic; every one knows of the refreshing and soothing feeling imparted by the citrine odors to the invalid. Lavender water, eau-de-Cologne, attar of roses, are among the perfumes that have been found effective in curing headaches and resting the tired mind. Upon the wonderful influence of perfume, Sir W. Temple, in his "Essay on Health and Long Life," says: "I remember that, walking in a long gallery of the Indian House of Amsterdam, where vast quantities of mace, cloves, and nutmeg were kept in great open chests all along one side of the room, I found something reviving by the perfumed air, that I took notice of it to the company with me, which was a great deal, and they were sensible of the same effect, which is enough to show the powers of smells and their operations both upon health and humour."

The odors of nature produce profound effects upon the organism. We all know the exhilarating effect upon the mind of the fragrance of the country air on a spring morning. The sweet sea breeze laden with the brominic odors from stranded weeds wonderfully invigorates the nervous system. The first whiff of the sea to a landsman brings about a series of wonderfully pleasurable emotions.

Harmony of Odors

In the past, several attempts were made to formulate a harmony of odors, much after the same pattern as a harmony of sounds. This idea of organizing a music of odors, as it were, is noteworthy, and several investigators report satisfactory results. One suggests that "a melody of flower-scents in quick succession, accompanied by booming chords of vintage clarets and burgundies, would be delightful." Again, it is said that "there is an octave of odors, like an octave in music; certain odors coincide, like the keys of an instrument. Such as almond, heliotrope, vanilla and clematis blend together, each producing different degrees of nearly similar impression. Again, citron, lemon, orangepeel and verbena form a higher octave of smells which blend in a similar manner. The analogy is completed by what we are pleased to call semi-odors, such as rose-geranium for the half-note; petit-grain-neroli, a black key followed by fleur d'orange. Then we have patchouly, santalwood, and vitivert and many others running into each other."

This attempt to form a harmony of odors is praiseworthy and of great importance. The wonderful therapeutic properties of music are well known, and one can hardly dream to what wonderful ends odors, organized into definite octaves and arranged in a scientific order, like music, can be put. Smell is third in the order of the senses arranged according to their esthetic value. There are nine classes in number of discriminable qualities, and there is a difference of 25 percent in sharpness of discrimination. The influence through the avenues of the preceding two senses, sight and hearing, is indeed great; for, every one knows the remarkable part that colors and sounds play in the role of human health and happiness. Odors play no less an important part.

*In connection with this interesting article, read the one appearing on page 835 of this issue of CLINICAL MEDICINE.

Memoirs of the World War

By GUSTAVUS M. BLECH, M. D., Chicago, Illinois

(*Continued from October Issue, p. 748*)

Small Beginnings

I INQUIRED about the market facilities for milk and eggs. I learned that I might as well abandon the idea, as milk was obtainable from the entire neighborhood in such small quantities that it could be "prescribed as medicine" only; and, as for eggs—*il n'y en a pas*—there was no such an animal.

I returned to the hospital in a somewhat dejected mood. My little kingdom began to look too little to please me. However, I would try every farmer within a radius of ten miles before giving up. On my way to the hospital, I bought some writing paper in a stationery store, ordered a rubber stamp to print my stationery with, and a few letter files.

I called in the officers and assigned them subjects for instruction. The men were to be given the most practical instruction in ward work. They should be instructed in making up beds, in taking pulse and temperature, in the recognition and control of hemorrhage. All other work would, of course, be under the direct supervision of the medical officers until proficiency was assured.

I again left the hospital to visit our "military resources." In the heart of the city, was our telephone exchange and telegraph office, in charge of a reserve signal officer, who proved a very obliging fellow. He had Government envelopes galore and I borrowed a hundred from him.

The commandant of the military-police school, located in a regimental post of large size, was also short of transportation, but he allowed me to use his doctor, except for the time needed to hold sick call. Of course, all serious cases would be sent to our hospital. The military-police school handled our mail.

The "isolation" of my station was not so terrible after all. We had telephonic, telegraphic and mail connection with all military authorities. Quartermaster and commissary supplies were to be drawn at Nevers, but all medical equipment, including all blanks pertaining to reports on patients, had to be drawn from a medical-supply depot at Cosne, a small town on the Loire river.

I called the Statistical Department on the phone and explained my predicament. The officer-in-charge assured me that he would send me a complete supply of blanks for military reports without further formality. My clerk and I pounded out page after page of requisitions for medical supplies.

Next I studied the facilities of the very large building, and drew a plan of the ground floor, to prepare for the office a chart or map to show the disposition of the wards, all of which were to be numbered. Each ward on the map bore a legend indicating the number of beds, as: $\frac{LV.}{50}$ not all wards being of the same size. There was a number of smaller rooms. I distributed them according to location for contagious diseases, moribund cases, a bacteriologic laboratory, etc. All this was done on the proposition that, by utilizing every available space, I could accommodate one thousand patients without crowding, and I planned arrangements accordingly.

Preparing for the First Patients

The very next day, one of Colonel Ruffner's assistants called me on the phone and informed me that I should prepare to receive a train with four hundred sick and wounded. He asked me whether I could get milk, and I told him what experience I had had; but that I had not given up hope. I could visit every farmer within a radius of ten miles, if necessary, and get the precious nourishment—*coute que coute*. "By the way," I added, "I presume my credit will be good, but the French may demand cash. Please send me a few thousand francs in advance. I have not enough on my person to carry that many patients for a whole month."

I received a promise of five thousand francs, as an advance, or loan, for the hospital fund. When I hung up the receiver, I was in a peculiar frame of mind. In a way, I was glad to be entrusted with so many patients; but, even if I were the greatest organizing genius, I could not possibly get along with three doctors and an additional part-time doctor, all of whom had other duties besides, and about twenty-five wardmasters, whose sole training would consist of what they could learn between the time of my taking command and the arrival of the train.

However, I was in splendid health. I estimated that four hours' sleep would be plenty for me, that I would perform the more serious

operations myself, be behind everything and everybody. The trick had to be turned, and that was all there was to it.

Accordingly, I laid out the following "order of calls" for myself: Awake at 6:00; toilet completed by 6:15; breakfast finished at 6:30; from 6:30 to 8, service in the surgical wards; from 8:00 to 10:00 in the operating room; from 10:00 to 12:00, administrative work; luncheon finished at 12:30; talk to the officers concluded at 1:00 p. m.; inspection 1:00 to 2:00; administrative work until 5:00; dinner concluded at 5:30; rounds finished at 6:30; work in the office until 2:00 a. m.

My clerk began to handle my little typewriting machine almost to my satisfaction; but, as he could take no dictation, I had to write out every letter or document in long hand.

On October 10, a telegram was handed me announcing that a train with wounded would arrive at 11:30 a. m. Just as I was reading the telegram, a captain, medical corps, reported for duty. It required but a few minutes' talk to become convinced that an experienced surgeon stood before me, for, aside of his good professional connections in his home town (St. Louis, Mo.) he had done much surgery in a base hospital. I bade him welcome. He volunteered to go with me to the railroad station.

I sent a messenger to the French hospital with a note asking them to have the ambulance and the automobile at the station. My own motor truck was now working; chairs were placed in it. Thus equipped, it was hoped to land all cases at the hospital in several trips. I directed ten men with four stretchers to be at the station at 11:00 a. m. These men were given a half hour's instruction in litter drill.

The adjutant was designated as receiving officer. His duty was, to check all incoming men and to distribute them something like this: All cases which would require dressings only, to be placed on the ground floor; cases likely to need operations, and all injuries which demanded rest in bed, on the second floor close to the operating room; all internal-disease cases were to be carried to the third floor. Ambulant cases should be sent to the shower baths before being admitted into wards. All recumbent patients should be undressed, washed and put in pajamas by the enlisted men. After having made all these provisions, I felt that I had done all I could do, and Capt. R. M. Spivy (the new officer) and I walked leisurely to the station.

A Trainload of Wounded

At 12:25 p. m., the train pulled in. The ambulant cases were organized in one group. The recumbent cases were laid on stretchers and taken to the ambulance. All those who could sit went in the seven-passenger touring car, only the slightly wounded went in the truck. The ambulant cases slowly walked to the hospital. After the third trip of the truck and ambulance and the fourth of the automobile, the last patient was on his way to the hospital.

Automobile Ambulance Fleet

When I returned to the hospital, I found the kitchens in full operation. I had bought in the open market all the potatoes, bread, and eggs I could secure. There was an abundance of meat furnished us on contract by a military butchery (French) in town, and, about an hour after the last patient was in bed, every one had soup, coffee or more substantial food. Without having received the proper authority, I hired six French women to help in the kitchen. For a moment, I drew a sigh of relief. The worst was over.

The Disinfestor

During an inspection round, I spoke to some of the men. They had been wounded some two weeks ago, had been moved to several hospitals, but at last, as they expressed it, they had a bed, clean linen and good food. I did not see a discontented face. My little kingdom suddenly grew to a large dimension.

Many of the men had infested clothing. It was necessary to take radical measures. In

the courtyard, back of the hospital, was a large steam disinfestor. It was locked and the sanitary officer (Lt. Watson) came to me for instructions.

"Break the lock!"

"I have not enough men to run the machine. All our men are busy in the kitchen and the wards."

"All right, pick up a few slightly wounded, preferably men who know something of steam boilers."

He found an experienced man among the patients and he, assisted by three other patients, put bundle after bundle of clothing through the steaming process.

In the midst of all this excitement, a lieutenant colonel and a captain entered the office. They had come from a hospital center to inspect the hospital, with special instructions to ascertain equipment and bed capacity.

"You will do nothing of the sort, gentlemen. You will first have a bite to eat." We went to the officers' mess and lunched. Then I sent a sergeant with them; I, myself, returning to work.

The inspector expressed his amazement at the rapidity of the admission of the patients under great difficulties. He agreed with me that we could accommodate one thousand patients, and I was particularly glad that he so reported, for reasons which will appear later.

Several catholic sisters came to the office to offer their help. I declined that with thanks. They asked for food for their charges (orphans, old, helpless people), and I promised to do all in my power.

I may say, in passing, that, while we were in no position to assist the worthy poor with materials from our government stores, no matter how plentiful they were, our officers, nurses and soldiers gave freely on all occasions from their own means.

I passed word that, for the present, all instruction would cease. The men were to remain in the wards. A small number were ordered to go to bed, having been designated for night duty. Supper was served late—at about seven. At eight, I made rounds and found almost all patients in deep slumber.

No mail having arrived, I wrote a letter asking for the transfer of two hospital-corps men from the 33rd Division, men who had served with me ever since I was in the service. Then I retired.

October 11. Up at 5:00 a. m. I went into the wards half an hour later. Several men were already in the lavatories shaving. This pleased me very much.

Hospital Rules

I went to the office, opened my "Corona," and wrote out a set of regulations for the patients as follows:

"Camp Hospital 47.
Autun, Saone et Loire
A. E. F., France,
October 11, 1919.

Rules and Regulations for Patients

The following rules and regulations will be strictly observed:

1. All patients are reminded that, while they are inmates of this hospital, they are subject to military discipline, the same as if they were part of this command.
2. All lawful orders of officers and wardmasters will be obeyed.
3. Patients, declared physically able to do so, will make up their own beds and assist in ward fatigue.
4. Spitting on the floor, boisterous conduct, gambling, shouting and the use of profane language are strictly prohibited.
5. No patient will leave the hospital without a pass.
6. Drinking of alcoholic liquors of any kind, in or out of the hospital, will result in arrest and severe disciplinary measures.
7. The association with lewd women is forbidden by military regulations. Patients who contract venereal disease will be tried by summary court.
8. Mail will be collected by the wardmasters every day at 11:00 a. m. Letters will not be sealed. They will be dispatched, after having been censored, not later than the day following receipt."

After this literary effusion, I recollected that I had no summary-court officer and no spittoons. The former want was easily remedied — good, old Dr. Watson had another office piled on his shoulders. There were some small boxes in the stable. These were half filled with sand for spittoons, and, now, my regulations could go into effect.

They were posted on the bulletin boards of the hospital. A sergeant read them to the inmates of every ward.

Early in the forenoon, two soldiers from the Military-Police School were admitted with mumps. They were sent to the room already designated as an isolation ward.

The second story of the office building had one small and five large rooms. I selected the smallest and had my bed, furniture and equipment moved into it. The four officers were requested to move out of the hospital building and select whatever rooms they desired in the office building. They moved during the afternoon. This released two rooms in the hospital.

Several patients left during the afternoon, to

visit the town. It was evident that some check would be necessary, as one returned patient declared he only walked through the street adjoining the hospital. A non-commissioned officer and six ambulant patients were detailed as guards. I quartered them in a spare room of the office building. One man was to be on duty two hours. He was to allow no patient to leave without showing a pass.

The Military Police were requested to arrest and return to the hospital any soldier, except our own personnel, found in town without a pass signed by me or the adjutant.

My clerk had been busy for hours preparing passes on the typewriter. A signed slip like the following specimen proved sufficient for all purposes:

"Camp Hospital 47.
Date (stamped).
PASS
.....a patient, from .....p. m. to.....p. m.
Signature:
1st Lieut., M. C., Adjutant."

Late in the evening I received an important telegram from the chief surgeon asking me to report the maximum emergency capacity. The newspapers (French) say that the Germans are willing to accept the conditions of the Allies. Very good, if true, but it is none of our business. We will not relax one bit. (Indeed, a few days later, a circular arrived cautioning all officers and men to work harder than ever, as the Germans were probably tricking the Allies into a false sense of security).

Paper Work Difficulties

There was quite a number of patients who would soon be in a position to return to their organizations for duty. I would have to issue travel orders, and a military order must have a rubber stamp seal. I wrote to the quartermaster for a seal. Another letter went out requesting authority to establish a laundry. I also sent to the chief censor for a censor stamp.

During the day, I drew up ruled sheets to make out lists of all patients, giving also the information required by the official Sick- and Wounded-Report Cards. I had not a single blank, but I remembered that we had to have name, rank, organization, years of service, race, nativity, date of admission, diagnosis and disposition.

The lists were ruled accordingly for future reference, to be used when the blanks will be available. Each wardmaster was to fill out the lists. The men were cautioned to spell the names correctly. The diagnosis should be dictated by the ward surgeons. Towards evening, all lists, by wards, were in except one. I was told that one wardmaster was still at it.

At ten o'clock, the man brought in his report. When I looked at the report, I did not know what to make out of it. Considering that the man had spent six hours of incessant toil on twenty-one names, I realized that he was practically an analphabet. I did not have the heart to say a word. I thanked him. He saluted and went out happy. I asked an officer to get me the data.

On counting up the lists, I found a shortage of two men. Was there a mistake in the original checking? There had been no transfers from one ward to another. The adjutant wanted to recheck the entire personnel. That would have been too big a job. I went through all wards. In one, I found two empty beds. Where were the men? They had disappeared the night before. The next day, they came back. They had had a glorious time. Chopping wood and mopping up kitchen floors for five days was the price, and they paid it with pleasure—it could have been worse.

An officer thought that I was too lenient. "You have not been at the front," I replied, "so you do not realize what they went through. They'll make good." And they did.

A patient from the police garrison was brought in. He had influenza and looked very ill. He was placed in a large, airy ward, containing also the member of our detachment. Preparations were made to utilize an adjoining room for a possible epidemic.

A Consultation Trip

October 14th. The following first special order is published:

"Major Gustavus M. Blech, M. C., will proceed to Nevers (Nièvre) and Cosne-sur-Loire for the purpose of consulting with the chief surgeon. I. S. S. O. S., and to secure medical supplies, on completion of which he will return to his proper station.

By order of Major Blech
P. J. Fitzgibbons.
1st Lt., M. C., Adjutant."
(SEAL).

On the face of it, such an order appears ridiculous, but it was perfectly legal. It would have served its purposee as a pass had any M. P. soldier stopped me en route.

The signal officer had loaned me a motorcycle side-car and a chauffeur, and we left the hospital at about 9:10 a. m., arriving at Nevers at noon.

Colonel Ruffner invited me to lunch at his house, and I had not only a pleasant visit but a highly instructive one, as well, for, I asked him

a number of important questions, all of which were answered promptly. A request to have Lt. Louis G. Pawelek transferred from the Military Police garrison to the hospital, would be granted soon.

After luncheon, I went to the depot quartermaster. At first, they would not listen to my plea for office supplies. I should make out requisitions and they would be filled in turn.

"Major," I replied, "I have neither blanks, nor typewriters, nor clerks. I have my own little "Corona" and I did send you a requisition. Meanwhile, they sent me a trainload of wounded. I came here on a loaned side-car and am chilled through and through. There are two ways in which you can get rid of me. The first one is, to throw me out and the second, to help me out. But, if you do the first you will lose a friend who may be useful to you some day,—so, take care."

I got what I asked for. They gave me stationery, rubber bands, scissors, ink, paste, penholders, clip files, and similar articles at once. I put them in the side car. Typewriters and larger supplies would be sent by the first available truck.

We continued our race to Cosne, a distance of 55 kilometers. I arrived at about 4:30 p. m. and at once went to the Commanding officer of the depot. The same stories were exchanged. The same appeal. Result—a huge quantity of blanks and minor supplies piled into the little car, and a rush order for the rest by express. We left Cosne at about 5:30. At six, we stopped in an inn for dinner. By midnight, we could go on no longer—we were both frozen stiff. We then were in a village which boasted of a hotel. A hot drink and a bed proved veritable life-savers. We awoke at 6:00 and proceeded on our way, arriving at the hospital at 8:00 o'clock for breakfast.

A few days later, a regular-army sergeant arrived for duty as clerk. He was placed in charge of the office. The typewriters arrived. Some patients volunteered to help out, and work in earnest was begun on the numerous official reports. The few clerks worked from early morning till late in the evening catching up, for, as a matter of regulation, reports to the statistical office and to the chief surgeon should have gone in every day. We were now ready to send them for the preceding days and keep up the daily output. The clerks received permanent passes, as did all patients working in the kitchen.

Accretions to the Personnel

Gradually more medical officers came to report for duty. An officer of the quartermaster corps arrived and he was instructed to secure clothing, shoes, and overcoats for a hundred men, to have them on hand for soldiers to be discharged to duty.

A group of nurses was sent from Mars. They arrived on the 17th, in the evening. I sent an officer to the station to receive them. They came to the office and turned over their papers. I had some supper arranged for them and sent them to a hotel for the night. I had no room for them in the hospital, but, after some effort, secured a flat in town. A dentist reported for duty and we established a dental dispensary.

The nurses came in the nick of time. The influenza had made its appearance in Autun. We had admitted fourteen cases in two days. The French, too, sought our aid. We did all we could for them, only when they disobeyed our orders and kept the windows closed—the French people in small towns have a terror of a draft—did we refuse to do anything further for them.

The staff assumed a respectable size. I appointed Capt. Spivy as chief of the surgical service, and Capt. Franklin A. Martin (of Illinois) as chief of the medical service. Other departments, too, were organized.

Reports came to me that there was a clash between two officers, each feeling that the other had trespassed on his preserves. It was a healthy sign of life for a new-born baby which began existence by struggling for breath.

The two officers were called into my office. What transpired, is more amusing than interesting. They shook hands and became warm friends. We had officers' meetings every noon. These lasted about fifteen minutes. At these meetings, the defects noted by me on my daily inspections were pointed out. Questions by officers were asked next and answered by me. Then we sat down to lunch.

One evening a week we had a regular scientific meeting. An officer would read a paper and the others would discuss it. There were even the usual differences of opinion, in true accord with the saying: "When doctors disagree." The nurses attended these meetings.

Just as the hospital was functioning something like I thought it should, we received two visitors. One was Lt. Col. Arthur N. Tasker, sanitary inspector of the zone, a regular-army officer, and Lt. Col. Sale, of St. Louis, Mo., a distinguished clinician. Col. Tasker made a perfunctory inspection, asked a few questions and made a number of valuable suggestions to me, while Col. Sale and the internists talked over the best methods to handle the influenza

situation. Whether or not Col. Ruffner sent these two gentlemen to make sure that I was secure on my feet, I did not learn, but the visit proved a welcome one, as it became apparent that whatever advice was offered, came in a manner calculated to prove helpful. Col. Tasker's experience made his help invaluable to me.

We had rented a piano. As a rule, after the meeting, there would be music and dancing. Entertainment for the patients proved a serious problem. There was no Red Cross organization in town. Whenever any one from the police garrison, the signal office or my quartermaster went to Nevers I asked them to bring back magazines. The men read those with avidity. I myself purchased checker boards, chess sets and dominoes. I wrote several letters to the Red Cross authorities for other games. There were delays, all sorts of technicalities and questions of territorial jurisdiction being raised; but, finally, the proper officer got wind of my efforts and hurried a Ford delivery wagon loaded with baseball, football and other outfits all the way from Lyons to the hospital. We had then a Catholic chaplain with us, and he directed the athletic sports. It made me happy to see my own men—now increased to seventy—and many patients tumble about in the spacious courtyard.

The Chaplain and a Funeral

Incidentally, the story of how I secured the services of a chaplain for the hospital is not without interest. Our first death from influenza-pneumonia, a military police soldier, occurred October 21st. I recollected to have seen, among papers found in a waste-basket, an inquiry from headquarters about an American military cemetery in Autun. I went to the mayor, but he knew nothing about such a cemetery. I told him, I had official information that there had been arrangements made for one. He began to telephone a good deal and finally told me that I was right. The plot was a fenced-in field near the city cemetery. I signed the death certificate and told the mayor I would advise him by messenger at what hour the funeral would be held. The city furnished the grave digger, and there was, I learned, a contract with an undertaker. The undertaker himself was out of commission, but he sent two boys, nephews, who measured the body for a simple coffin. All other services, in accordance with French custom, would have to be rendered by the mourners, which means in this case the hospital authorities.

I called the section chaplain at Nevers on the phone. He promised to be in Autun at 10:00 a. m. the next day. I asked him to bring a flag along, as we had none. I notified the mayor that the funeral would be held at eleven. The commandant of the military police garrison promised to send a bugler and a firing squad. The senior chaplain came and conducted the services in simple but impressive fashion. French military and civil authorities came to the hospital to pay their respects to the first American who died in Autun.

I arranged the procession as follows:

Senior chaplain and adjutant.
Army truck with the coffin, draped with the U. S. flag.
Firing squad.
French commandant and Commanding officer of the hospital.
Officers, French and American.
Platoon of Hospital Corps Detachment.
Platoon of Patients.

At the grave, the usual ceremony consisted of a brief address and a prayer, three volleys of musketry, after which the bugler blew "taps." The platoons returned to the hospital in military formation.

When we came back to the hospital, I asked the senior chaplain to assign a chaplain for duty with us. I pointed out that we needed such an officer now, since I anticipated several deaths perhaps in the next few days; that I found among my own men and among the patients illiterates, who should receive instruction. The chaplain could also hold Sunday services at the police garrison. The senior chaplain asked me whether I preferred a Protestant or a Catholic. I told him that as far as I was concerned, it was immaterial, since I was so steeped in sin that not even a senior chaplain could pull me out; but, as there were probably forty percent Catholics in my command, I thought that a priest of their faith could be useful to all and especially to them, since some of our patients had visited French priests for confession.

He sent me a young priest from Iowa, Chaplain Frederick J. Frein, the very next day. This clergyman went at his work with zeal and at no time did he function as a priest when dealing with non-catholics. There was in the building a large room completely equipped as a Catholic chapel, with altar, confessional, vestments, etc. I may add that we had altogether only five deaths from influenza-pneumonia and that the dead were buried with military honors by us. The member of our detachment, who was so ill when I arrived, died, but, outside of a few remarks from me at the grave, there was no difference in the

burials. Flags and flowers for the graves were distributed on several occasions by our nurses and men.

Small Annoyances

Every day brought out problems of all sorts which had to be solved. A lady came to my office and complained that some one had thrown a piece of metal from the hospital building across the street, breaking a window in her house. This was verified by an officer. She demanded seven francs damages. I told her I would send her the money in the evening.

I ordered all ambulant patients to report an hour after in an empty church, which was part of the hospital. The large auditorium was filled. I told the boys that, as I had been at the front, they had my full sympathy and they ought to realize by now that everything possible for their comfort and pleasure was being done, but that I would no longer tolerate infractions. I told them about the window-breaking act as being a disgraceful thing; that, instead of acquiring a reputation as gallant soldiers, we were in danger of being feared by our French friends as rowdies. I was going to put the ranking patient in each ward in disciplinary charge and would hold him responsible until the culprit, if any, be discovered. Meanwhile, the damages had to be paid. It would amount to less than one cent per man.

A few minutes after I left, a committee waited on me, handed me the money and said something of gratitude being due me, that the men felt they were treated more like members of a family than soldiers. They would do all possible to maintain discipline. The men were grieved to think that sorrow should have come to me. And, indeed, discipline in the hospital after that was perfect.

The Problem of Drunkenness

A nurse came to me and complained that several drunken soldiers had pushed her off the side-walk as she was going to the hospital. The curse of drunkenness was too deeply rooted in the states for me not to appreciate that, here, I had more than a problem of discipline. The men had to have liberty to visit the town. I could not make a prison out of the hospital, even if I would, and I would not even if I could. Punishment had to be resorted to in individual cases, but a few days fatigue or even a fine would soon be forgotten.

I was informed by several soldiers that they could get all the cognac they wanted. I did not believe this. The French regulations were stringent. I removed my insignia of rank from my raincoat, changed my cap for a campaign hat and, as it became dark, went to an inn. I ordered a cognac and was given a "pony" without much ado. A few soldiers came in. They began to order drinks—also cognac. When that was served, I arose. They recognized me and raced for the door like madmen. The proprietor became frightened and began to beg off. I told him I would do nothing further if he promised never again to serve an alcoholic drink to an American soldier; otherwise, I would have the place declared out of bounds.

The commandant of the police school and I went the next day to the mayor. The mayor began to hedge (the mayor himself was ill and absent—all dealings were with the acting mayor), finally I told him that, unless he published a warning, I would declare every offending drinking place out of bounds and keep it out of bounds until I left the city. That had the desired effect. He printed warning placards and distributed them. These carried my signature as well as that of the police-school commandant.

An anonymous letter came to me, purporting to be from a grandmother of grown girls appealing to me to stop orgies in a certain restaurant by some of my men with two lewd women. I had received several anonymous letters denouncing one or the other of the French women employed in our kitchens. Investigation showed that this was spite work or caused by a desire to secure their places. I ignored these letters on the advice of the gendarme captain, as I did all anonymous letters charging our soldiers with misbehavior. But, here I had an appeal, which bore the stamp of sincerity. I went to the designated place, discovered there three patients with the two women. The men were ordered back to the hospital. I told the women that, if they did not leave town in twenty-four hours, I would take measures to send them to Paris to the *maison de santé*. One of them left town, but the other claimed the protection of a French army officer and defied me. Again the mayor hedged. He would have the woman examined. If she were healthy, nothing could be done. But, something was done when I told him that I would address myself to the war minister. As for a certain licensed house—that was legitimate. It was an establishment. But, the military police stationed a sentinel near the door and no American was permitted to enter.

(To be continued.)

Surgical Seminar

Conducted by Gustavus M. Blech, M. D.

IT is with a good deal of regret that I have to announce that the problem, presented to the SEMINAR by Doctor Lightstone (September, page 642.), can not be discussed in this issue, because, though I have waited to the very last minute, no letter has been received from him. I feel that the publication of any discussion would be rather futile without the solution being available. I have asked the Managing Editor to communicate with Doctor Lightstone in the hope of having the problem ready for disposal in the next issue.

I think it a good plan to adopt a rule that no problems shall be submitted for publication without providing the solution, as in this way only can delays be prevented. [But, what if the querist desires enlightening discussion, because he does not know the answer, himself? ED. A.]

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It is with a good-deal of satisfaction that I publish the following letter, received from Dr. Geo. Acheson:

To continue the discussion of Surgical Problem No. 3, Case No. 4: As you remark, differences of opinion will exist; and, as in this case the actual condition present was not determined either *ante* or *post mortem*, I feel like giving my reasons for a diagnosis of volvulus rather than intussusception, even though you agree with Doctor Crack whom, by the way, I know very well and for whose professional knowledge and judgment I have great respect, as not long ago I was a near neighbor of his in Hamilton, Ont.

Of course, in such cases, practically, it makes no great difference whether an accurate diagnosis of the exact pathological condition is made or not; the supreme interest of the patient demands immediate surgical relief. But, we should always endeavor to make a tentative diagnosis as nearly in accord with the observed signs and symptoms as possible; and then it is always a source of satisfaction to have our diagnosis verified by operation or necropsy.

My reasons, therefore, for suspecting volvulus rather than intussusception are:

1.—Age: Intussusception is rare between childhood and old age, while volvulus is most common in adults.

2.—The sudden onset of acute symptoms—abdominal pain and early vomiting.

3.—Absolute constipation from the onset: In intussusception, there is usually a period of longer or shorter duration when the obstruction is not complete.

4.—The site of the pain, to the left above the umbilicus, in the region of the sigmoid flexure, the most common situation of volvulus; while intussusception most commonly starts on the right side at the ileocecal valve, rarely in the large intestine.

5.—The absence of any palpable abdominal tumor, which is usually felt in intussusception.

6.—Abdominal distention occurs rapidly in volvulus; and in this case we are told that within twenty-four hours there was marked tympanites.

7.—In short, the abrupt onset, with complete obstruction from the beginning, and rapid development of serious symptoms point to volvulus rather than intussusception.

Felix qui potuit rerum cognoscere causas". (Virg.)

Perhaps we all are wrong, and the foramen of Winslow may be the *"fons et origo mali"*.

I am very greatly interested in your Memoirs of the Great War, as for five years I served in the Canadian Army; though, to my great disappointment, I was not permitted to go overseas. I have been a member of the Canadian Militia for forty-five years, enlisting as a private in the Queen's Own Rifles of Canada, in 1876, serving successively as company, batallion and brigade commander, and retiring last year with the rank of Colonel. During the war, I served on the H. Q. Staff of Mil. Dist. No. 2 in various capacities, mostly administrative, and two years before demobilization I was appointed to the C. A. M. C. with the rank of Colonel and made President of a Standing Medical Board, which was concerned principally with the examination of officers on demobilization. So, you see that I too have had some military experience, though much too far behind the firing line to please me, and I envy you your experience in the field. I have had under my command, during training here for a short time, in 1915, a force of over 11,000 of all arms, and I was Assistant Adjutant General at a summer camp in 1916 of upwards of 10,000. It's a great life.

Well, what has this to do with a Surgical Seminar? I hope Doctor Lightstone has found out what is the matter with that man who thought he was ruptured.

Reply: At the risk of making the SEMINAR something of a family affair (and, I really want it to be one) I will say that your military record is one any medical man can be proud of. It is remarkable that of all ties, social, political, business, religious, fraternal and the like, none are more lasting and more deep and strong than those friendships developed in the

camaraderie of the military services. While human nature is such as to see in every colleague a rival or competitor rather than a co-worker, it is different among those men who have been together as friends while wearing the uniform. I count among my strongest human ties officers and former officers of different nationalities and creeds; for, as far as our friendship is concerned, we are not interested whether we pray to the Deity in Latin, Greek or Hebrew or whether we just philosophize in a reverential spirit. As friends, we form a clan which cannot be broken.

Naturally, my pulses beat a little faster than usual when I beheld in you a man of my own military rank, an enthusiast in the only game worth while—that of national defense. In my opinion, one of the greatest surgeons of the world was Nicholas Senn. He, too, wore the uniform of a medical officer, and he was not too proud to take off the epaulets of a brigadier general and to don the shoulder straps of a colonel and lieutenant colonel, when this exchange was necessary for him to remain in the service. I had the honor of the eminent surgeon's friendship. Once, while in reminiscent mood, I commented on the social aspect of military surgery. "You show me a good military surgeon and I will show you a brilliant civil surgeon," was his curt comment.

I present no nosegays to you, Colonel Acheson, but I will say that I feel honored by your cooperation, and I earnestly ask you to help me to make the SEMINAR what I aim it to be—a sort of postgraduate course for our younger colleagues.

Now that we have extended the more or less formal military courtesies, let us take off our regimentals, light our pipes, settle ourselves more or less comfortably in our camp chairs and fight out the volvulus-intussusception dilemma.

At the very outset, let me say that I have been very shaky on the diagnosis and that, even today, I am not prepared to take a solemn oath that I am right and you are wrong. But, just because of this element of doubt, the case makes splendid material for the SEMINAR. If the case had come to operation, I should not have deemed it surgically interesting enough to report. That is the trouble with a good many would-be surgeon-authors. They rush into print with any old case: often (I believe) to have a legitimate excuse to mail reprints as an advertising proposition. If that were all to my work, I would hand over my case cards to Dr. Achard with the request to pick out any he likes. But, Bro. Achard has a keen surgical nose, whetted by years of stimulation, so that he is a tough customer to please. And, what is more, I agree with him, even if he does keep me awake burning the midnight oil.

Now let us reason:

Ad. 1.—You mention the age of the patient as against intussusception. While it is true that nearly seventy-five percent of all cases of intestinal invagination are seen in infancy, due no doubt to the physiologic cecum mobile of the suckling infants (the descent of the cecum not having been completed in the ninth month) one quarter of all cases goes on the ledger of the adults. As per se is, therefore, no absolute guide to the diagnosis. Round one is a draw, feebly in your favor.

Ad. 2.—The sudden and stormy phenomena of obstruction of the intestine are as characteristic for intussusception as for volvulus, all depending on the degree of strangulation. In this case, previous intestinal disturbances speak for intussusception. Draw, feebly in our favor.

Ad. 3.—This is your strongest point. If there had been any passage of fecal matter mixed with mucus and blood, the diagnosis of intussusception would have been substantiated on a classic phenomenon. But, because there was no passage, but a good deal of tenesmus, we are not yet justified in excluding the possibility of invagination. Supposing the lumen became completely occluded through cicatricial stenosis? That is what I think happened in this case. I have seen at least three cases of tuberculosis of the intestine terminate to that extent. Draw, feebly in your favor.

Ad. 4.—Your argument is well taken, but, as I have pointed out in the first paragraph and virtually for the same reasons, not conclusive evidence. Draw.

Ad. 5.—No! No! No! That is where my experience is in direct disagreement with textbook teaching. It is in volvulus I would look forward to palpating a "tumor" and I think I can explain why. It is this explanation as much as anything that has forced me to agree with Dr. Crack, though the Doctor has not given that reason for his diagnosis. In a pronounced case of volvulus, peristalsis very often has ceased throughout the entire intestine from the very beginning, through the pressure on the nerves at the site of the incarceration or construction. But, even lesions of in milder degrees, the constricted or incarcerated portion of the intestine is entirely devoid of any peristaltic movement, even though the remaining portion of the bowels betray waves. This condition results in a meteoric inflation of the

constricted loop, simulating on palpation an immovable intestinal tumor. This is our round.

Ad. 6.—Right, with this proviso that, in a grave case of intussusception, there are many factors which make the phenomena of peritonitis possible. Look back at your own records of operated cases of intussuception and recall how many you saw with unmistakable evidences of diffuse, fibrinous peritonitis. This round is a draw.

Ad. 7.—Yes and no. It is all a matter of degree of obstruction. Let somebody else referee this round.

You see, Colonel, that I have not hogged all rounds, I am afraid we will never agree and it really matters little. But I am hopeful that the discussion will have proved profitable to many readers, because just through argumentation of this kind many valuable lessons are brought home, which, if presented in less interesting form, would simply be ignored or easily forgotten.

There remains for me to comment on your postscription. I have thought of the foramen of Winslow; but, in the event that a loop of bowel had been locked there, the phenomena would have been mild as we would have to deal with an internal hernia. But, is this possible in a young adult without a previous history of gall-bladder trouble? I doubt it, because, without some inflammatory process, narrowing of the foramen sufficiently to be the "fountain and origin of the evil" would seem inadmissible.

Never having seen this kind of a hernia, my nearest approach to this form being two cases of incomplete diaphragmatic hernia, I am in no position to speak with authority. If you have been lucky enough to encounter such a case, I ask for the details. They surely will prove interesting in connection with this polemic discussion. *Je vous salue!*

Surgical Problem No. 5

A young man, whose past history is unknown and of no particular interest, since we learn from friends that he has been in good health for years, got mixed up in a fight while a passenger on a street car. During the altercation, he was struck by the driver of the car, who used the heavy brass controller to hit him on the left side of the head. This did not stop the patient. A little later, however, his companion noticed that he was bleeding from the head and took him to a public hospital in the vicinity. All this happened between ten and eleven o'clock in the morning. At the hospital, it was assumed that the injury produced by the handle was superficial, a protective dressing was applied and the patient dismissed.

The patient rode home, a distance of about two miles. At about two in the afternoon, you are hastily summoned to his bedside. You arrive there about half an hour later.

You obtain the history as given. On further inquiry, they tell you that he noticed a weakness in the left leg first and that, soon after, he became unconscious. You have no instruments of precision (ophthalmoscope, etc.) but you note the following: The patient is unconscious, virtually in coma from which he cannot be aroused. Breathing is deep, slow and stertorous. Pulse 40, but of fairly good volume and regular. There is inequality of the pupils, and no pupiliary reaction to the light of a candle. Your examination of the head for depression results in a negative finding. There is a horseshoe-shaped, superficial, contused wound of the scalp, apparently not very deep, on the left side of the head at about the site where you would locate the fissure of Rolando. The bleeding from this wound has been completely controlled. Superficial examination of the auditory canals and the nose shows no bloody discharge in either location.

Required. A rough estimate of the situation. Discuss with the limited data available the probable diagnosis with special reference to the site of the fracture of the skull, if any. Discuss the prognosis. Indicate the proper therapy.

Note. The case above referred to is rather typical of many similar ones seen.

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE, M. D.

Child Training

I HAVE heard doctors make the remark that they *take* many medical journals, but they *read* CLINICAL MEDICINE. However that may be, I am sure of one thing, and that is, that doctors' families read it, and that cannot be said of all medical journals. I know that families read it, by the letters that come to me from doctors' wives and sometimes other members of the family.

Among the letters that I receive, none interest me and arouse my sympathy more than those that come from perplexed mothers whose nerves are frazzled by the worries of bringing up an incorrigible child or group of children. Not every mother is by nature provided with the special temperament which makes the training of children an easy and pleasant task. But, it should be encouraging to every mother to realize that the principles of child training are so simple and plain that any one can learn them. The only hard thing about it for some persons is the fact that it requires self-control on the part of the parent. This should not be hard for any of us, but, alas! for frail human nature! Who of us can cast the first stone? Three thousand years ago, the wise man had already found out that "He that ruleth his spirit is better than he that taketh a city."

Self-control! That is, indeed, the magic formula that opens the door to success in child management. It is true that public opinion is in a state of flux at the present time regarding the principles that should govern this most important duty of child training. However no matter what principles are adopted, it still remains true that self-control on the part of the parent is indispensable. That parent who scolds continually and shouts at the children, who permits disobedience most of the time, who only punishes when thoroughly exasperated, and, above all, who overlooks the power of love to lead a child, will find the task harassing and wearying beyond expression; while, as a matter of fact, to guide the development of a child's character ought to be, and can be the most interesting and joyful task in life.

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But, while it is true, as stated, that the art of child training can be learned, it is also true that, in this field as in the field of medicine, there is much quackery abroad—much false teaching, and so it is no wonder if some mothers are perplexed.

One group of theorists asserts that the child must not be restrained, that only in this way can he develop naturally. He may be reasoned with, but never compelled. Punishment must never be resorted to; it will render him slavish. And, as for corporal punishment, it is too barbarous to be thought of.

Another group of theorists asserts that the parent must conquer the disobedient disposition, break the child's will, make him realize that the parent's will is superior to his.

Between these two extremes, we find all shades of diversity of opinion; so, it is not surprising if the inexperienced mother is puzzled to know which course to adopt.

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A plan or system is judged by its results, and it is interesting to observe what sort of character is developed in children by these various systems.

Here is a family in which the children are growing up into little savages; they are rude and boisterous in the presence of company; they harrass and annoy pet animals and other children younger and weaker than themselves; they mar the furniture at home or elsewhere, tear books and pictures, and damage premises, so that landlords are afraid to rent to their parents; they destroy flowers and shrubbery for those neighbors who take an interest in beautifying their premises; they make night hideous by their shouts and yells at hours when children should be in bed; in short, they are unmitigated pests to their friends and neighbors, and not even a comfort to their misguided parents.

What do we find to be the home training or

absence of training of this class of children?

Invariably, we find one or more of the following conditions: Perhaps the mother is one of those easy-going mortals that never concern themselves about anything except their own pleasures and amusements. The children are left to their own devices. I once saw such a mother who spent her time reading cheap sensational novels while her little girl was lying dead in the house.

Or, the mother is one of those "advanced thinkers", whose watchword regarding children is "natural development", with no restraint and, of course, no punishment. One of this kind lived next door to a friend of mine who takes (and gives) much pleasure in a beautiful flower garden in his front and back yards. Last spring, when the flowers were at their best, the five-year-old son of the "advanced" neighbor pulled up, one morning, almost the entire display. When my friend complained to the mother, she said: "He's only a child and doesn't know any better. He didn't mean any harm; but I'll talk to him about it". On my friend's suggestion that something more than talk might be useful, she snapped back. "I'll not punish my child to please anybody". That the child's destructiveness was her fault, seemed never to have entered her head.

Again, we may find in the home of the undisciplined child a mother who has no self-control. She is continually scolding the children, and they soon become hardened and pay no more attention to it than to the blowing of the wind. This causes her to raise her voice more and more until she is habitually shouting at them, and the neighbors form an involuntary audience to her efforts at discipline.

Then, there is the parent who threatens. All sorts of dire penalties are promised to the children in case of disobedience. This is a form of indolence. The mother who threatens, hopes thereby to spare herself the trouble of inflicting the penalty for disobedience. She does not realize how much trouble she would avoid if she adopted the rule, "Never scold, and never threaten". The reason of this is, that scolding is merely weak complaining, and threatening ties her hands. If she makes the threat that she will do so and so, she must carry it out. If she does not, the children will no longer fear her threats. Then, too, it is so easy to make a threat that the parent gets into the habit of threatening penalties that she does not mean to carry out, that are, indeed, too severe to be carried out, and so she loses her influence altogether.

This folly sometimes takes the form of telling the child that the policeman will get him if he does not behave. This is doubly foolish; for, not only does the child soon learn the falsity of the threat, but it has a tendency to make him regard the policeman with fear, while he ought to be taught that the police are his friends, so that, if he is ever lost, he will be attracted to them rather than repelled. The mother should be truthful towards the child, if she expects the child to grow up truthful.

[An even more silly threat is, that the doctor will be called to take the naughty youngster away in his black satchel. The result of such stupidity is often disastrous. What physician has not found his hands hopelessly tied by the fear implanted in the child's mind through such criminal threats!—Ed.]

There is one other way of wrecking discipline in families; perhaps the mother tries to bring up the children right, but, as soon as she insists upon obedience or on the infliction of a penalty for disobedience, the father interferes more or less actively. If he even shows that his sympathy is with the child, the mother's efforts are nullified.

Sometimes the conditions are reversed and it is the mother who spoils the father's efforts to enforce discipline; the result, though, is the same to the child's character. Harmony between the parents is indispensable if the child is not to be injured.

If the parents do not agree in regard to certain disciplinary measures, they should not let the children know it. They should discuss the matter in private, come to some decision, and then loyally support each other in the presence of the children.

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Sometimes the problem is very hard, almost insoluble. A short time ago a very intelligent, conscientious mother asked my advice, describing this difficult situation:

The father lets the children misbehave without interference until he gets angry, and then he punishes with unreasonable severity. When the mother tries to enforce discipline, the father interferes with the plea that they are only children, that they didn't mean any harm, etc. One day, the six-year-old daughter, after being punished for some rather grave misdemeanor, coolly informed her mother: "When I get big you won't punish me. Papa and I will have a house of our own, and we won't have you there!" The father laughed at the speech—called it "cute"; but, one can imagine the mother's feelings and the ruinous effect on the child's character.

Occasionally—all too rarely, I am sorry to

say—we see a family where the affairs of the children move as smoothly as clockwork. No such thing as discipline is visible. The children seem to get along without friction either among themselves, or with their parents. In the presence of company, they are orderly and respectful, and when the parents give any orders or directions, it is done in a quiet voice and with a kindly intonation, and obedience is prompt and willing. It is easy to see that there is true comradeship between parents and children. Away from home, the children are not in the habit of handling without permission every object that excites their curiousity, or of wandering into other parts of a friend's house. They speak when spoken to, and do not interrupt the conversation of older people.

I can imagine some reader breaking into slang and exclaiming, "What are you giving us? There ain't no sich animile. That is a degree of perfection found only in the imagination!"

Well, as I have said, such families are rare; but they do exist. I have the honor to enjoy the friendship and confidence of several of them. But, alas! the poverty of that word "several". Instead of several, there ought to be, and could be, hundreds in every community.

Natural Development

The fundamental fact in the whole question is overlooked or ignored by the theorists, and that is, that "natural" development of a child's character is like natural development of a fruit tree, of a grain crop, or of a garden. It is irrational and results in weeds and scrubby fruit.

Take, for instance, an apple tree. If we let it grow up without "restraint", that is, let it "develop naturally", what is the result? Do we get a fine tree bearing luscious fruit in abundance? Far from it. The tree becomes smothered with shoots and suckers which show all too plainly the tendency to revert to the wild state; all kinds of parasites fasten themselves upon it and upon the fruit, and we have a stunted tree bearing uncertain crops of gnarled and wormy fruit.

But, what does the farmer do to his tree? He prunes out the shoots and suckers entirely; he thins out the fruit-bearing branches to a reasonable number; he keeps the soil cultivated and fertilized; and he destroys the parasites by spraying. In fact he does the very opposite of letting the tree "develop naturally". And the result is a crop of fruit of the highest quality.

And, so with the child. His developing character must be pruned of bad habits, he must be trained and guided into right ones, even by compulsion if necessary. His natural instincts and tendencies are to be guided rather than destroyed. He cannot be allowed to develop naturally and without restraint. Else, like the fruit tree, he will bring forth fruits that are stunted and disappointing.

Some of our "advanced" thinkers would do well to ponder this.

The Question of Method

If we are to help the perplexed mother, we must first consider the principles upon which good government depends, and then deduce from those principles the rules of conduct which will lead to success.

It should always be borne in mind that a normal child is a little tank of energy, always effervescing and seeking an outlet, and that, what often looks like mischief, badness, or original sin, is nothing more than the natural energy of the child seeking expression. To regard this as wickedness and treat it by repression, is a great mistake and is sure to end in failure. It needs guidance, not repression, and is the quality which, if properly directed, leads to success in after life.

The difficulty of finding proper expression of this energy is increased when there is only one child in a family. Where families are of the normal size of former days, the children educate and develop each other to a great degree. But, where one child is growing up in loneliness, the mother is sometimes hard put to it to find occupation for the little hands. There is something pathetic in such a little fellow's plaintive, "Mother, what can I do next?" Here is where the mother can get practical ideas by studying the methods of the kindergarten. A busy child is a happy child, and an idle child is sure to get into mischief.

Perhaps equally important is maintaining a powerful hold on the child's affection. Obedience is based on comradeship. The boy who finds a "chum" in his father or mother is linked to them by a bond far stronger than fear, and obedience is a natural attitude for him. When he puts his arm about his mother's or his father's neck, and whispers "I like you!" there is little fear of his going wrong.

When I say that love is the strongest bond with which the mother can lead her child, it is this comradeship that I refer to. That is the practical expression of love. I have little sympathy or liking for that sentimentality—that mushy expression of the affections that is constantly addressing the child with such terms of endearment as, "darling", "sweetheart", "lover", etc. To see a public parade of the most sacred affections, is disgusting to people of well-balanced judgment, whether made by parents

toward each other or toward their children. It is an old saying that, for married people to call each other "darling" in public, means hair-pulling in private. Perhaps this is judging too severely, but the fact remains that the public display of endearments, whether between adults or between adults and children, is not in good taste. In the matter of child-training, it gives a far weaker hold on the child than does that comradeship which the child instinctively feels to be sincere and attractive.

Obedience

In successful child training, it must ever be borne in mind that obedience is indispensable—obedience, absolute and unquestioning. That does not mean that it should be enforced in a harsh or domineering spirit. Just the opposite. Obedience can be prompt and complete and, yet, be in a spirit of cheerful compliance. If the child has been taught from the beginning that he must always do as he is told, that obedience is just as necessary as truthfulness, and that nothing less can be permitted, it soon becomes second nature to him and he will regard disobedience much as he would a lie.

A great deal depends upon the manner in which commands are given. A harsh and dictatorial order is prone to produce sullen and grudging obedience. Whenever possible, an order should be put in the form of a request; for, in most cases, this will be followed by cheerful compliance.

When given a command, children will sometimes want to know why they must do so and so. This should always be met with the kindly but firm explanation that, after they have obeyed, the reason will gladly be given. They should be told that the parent will not give commands that are not for the child's good, and that, therefore, obedience should be prompt. "Trust your parents" should be the child's motto. Of course, the parents should make themselves worthy of that trust by not giving orders that are unreasonable or difficult to carry out. If the reason for an order is given *before* obedience, the child will soon take the position of obeying if he approves; but, if he does not approve, he will argue against it. Obedience that is dependent on the child's approval or disapproval is hardly obedience at all, and it is not consistent with good discipline.

We often see children who receive every command of their parents with, "I don't want to!" or, "Why must I?" or, worse still, "I wont!" The parent who permits this is laying up trouble for the future.

It is right and proper that children should know why a certain course of action is required of them, but they should never be allowed to make that a condition of obedience. True obedience is unconditional.

As a rule, a command should be given only once, provided that it has been understood. The child, who has to be told several times to do a thing, has been badly taught, and the parents are as much to blame as he. If he does not obey the first time, there should be a small penalty to help him remember—not severe but sure. If the habit continues, the penalty may be increased. Usually, however, the deprivation of some small privilege will be enough, provided that the right spirit exists between parent and child.

Persuasion is usually a mistake, because it betrays weakness. It is almost making it optional for the child to obey or not as he sees fit. So, in the matter of securing obedience, it should not be employed. Children are quick to detect weak spots in our armor, and they realize that persuasion is a let-down in the parent's authority. The parent is in the attitude of a suitor begging for a favor. Wherever we see parents using much persuasion, we see badly-trained children.

The only circumstances under which persuasion is sometimes in order are, when inviting the child to cooperate with the parent in overcoming a bad habit and in cultivating some good trait of character. There is no loss of dignity in saying to a boy, "I want to see you grow up into a fine man, one who is a gentleman and liked by everybody." But, there is loss of both dignity and authority in pleading, "Please be a good boy now—and do what mother told you to do."

(*To be concluded in the December issue.*)

2920 Warren Ave.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER, M. D.

DIETING AND DYING

BEING naturally of a trustful and hopeful nature and, moreover, loving the whole human race with a great and abiding love, I have on several occasions been rendered prodigiously happy through the perusal of various books and more or less lucid articles which have appeared in the more "popular periodicals" revealing "in simple language" (very!) just how one might live in perfect health to be a hundred years old—or even older, if he cared to renew the lease after ninety-nine years. That the people who adopted the methods advocated would have no need of a doctor, was perhaps somewhat of a personal disadvantage, but, I reasoned, there will still be enough "conservatives" left to afford *some* practice and a reasonable income and, anyway, there will always be *babies* and, perhaps, the measles and mumps may manage to hang on through at least this generation. Therefore, as I have said, I was just unselfish enough to feel supremely happy each time someone told everyone else just how to be well and strong and beautiful for decade after decade. Naturally, now and again, I felt a little sympathy for the poor undertakers whose sole source of revenue was so seriously threatened. But, at the worst, they could, in their spare time, function as movie comedians or relieve mentally overstrained municipal employes. Anyhow, what do a few undertakers amount to in the great scheme of human happiness, health and longevity?

The first and more simple methods advanced, such as eating an apple each night, drinking a pint of hot water immediately upon rising, chewing each and every mouthful of food fifty-six times (counting them), drinking buttermilk and eating only rye bread, seemed at least free from very obvious disadvantages, though one felt that the individual who did all these things steadily for a month *might* become a gibbering idiot! But, about this time, along came a very persuasive gentleman who ardently advocated the ingestion of a large quantity of popcorn each and every night before retiring to slumber. Being distinctly magnanimous, he did NOT openly condemn all the other "health and longevity" schemes; so, a very large number of thoughtless people just *added* the popcorn! For a long time thereafter, I and my professional brethren were kept decidedly busy and those urbane gentlemen "who stay with you till the last" seemed to be doing very well indeed, thank you! Somehow, popcorn and apples (sometimes they ate 'em dried) did *not* blend harmoniously in the average human stomach, and the hot water in the morning (if they were able to drink it) only made matters worse.

I simply cannot bear to think of the results which followed the addition of *buttermilk!*

Doubtless, those more enlightened and intellectual people who adhered to any *one* method went serenely along and are those perfect specimens of humanity we occasionally see today—wearing "Smith's One-Button Underwear" or "Madam O'Migoshs' Combination Garments" (for slim ladies only) in the magazine advertisements.

A study of vital statistics will prove conclusively, however, that there was a very large number of crassly stupid—or just careless—people who failed to take any of the advice so freely given and, therefore, died miserably and from all sorts of diseases, usually before they had reached even their sixtieth or seventieth year. But, when the skies were darkest, along came a benevolent old gentleman with the assurance that, if one would only stop drinking such poisons as tea and coffee and would arise with the sun and gleefully cavort around bare-legged in the dewey grass, he would flourish like the green-bay tree and live very, very long in the land. Moreover, filled with pity for those thus suddenly deprived of the caffeine-bearing beverages, he provided a fascinating burnt malt which, upon being boiled, provided a perfectly beautiful (though flat) brown fluid which could be con-

sumed (by strong characters) *ad libitum*.

Then, ah! then, I was happy. For, each morning, I could see many entirely-too-obese males and extraordinarily scrawny females tripping merrily about in the parks on their way to health and old age. Many of the trippers, it appeared to me, had already been on the road a long time. Occasionally, at first, some uneducated and soulless cop would "call the wagon" and have his captives sent to the psychopathic ward, believing them to be "nuts". But, soon, such unwarranted persecution ceased and even the small boys delivering morning papers just chirped, "Oh, see the giddy grasshoppers," and went on their way oblivious of the fact that they were witnessing a possible rejuvenation of the race.

When, after a few months, most of the earlier advocates of the idea were observed to be still alive, and tripping more blithely than ever, the bare-foot ranks increased until out in the "rooral regions" it became so bad that honest farmers had to put up signs "Beware of the Bull" to keep Kneippers out of their clover fields and timothy patches. During the spring and summer months, there *may* have been a marked decrease in the death rate—perhaps there was—but, unhappily, there was also an unusually large number of cases of coryza, bronchitis and socalled influenza which kept the doctors occupied. This, of course, must be regarded as a mere coincidence. In the winter, unfortunately, very, very few people had the courage to hop about in the snow, and the death rate returned to normal again. I have always thought that, perhaps, this was because at this period people relinquished the drinking of "malt coffee" and resumed the distinctly injurious habit of swallowing decoctions of the genuine Mocha or Java—or such combinations of inferior berries as are usually sold as such! Again, it may have been because of the extraordinary consumption of very extensively advertised "breakfast foods" which occurred at this period. Some of these came baled, others in scales and one highly extolled article resembled granulated granite. I think that the earlier users of this are now expert harpists above, but their successors are still breaking perfectly good teeth on the combination. They intend to "grow old healthfully" even if they have to wear artificial teeth.

The "Artificial-Food Era", as this may be termed, ushered in hundreds of guaranteed "health" schemes. Highly gifted and scientific (ad-) writers bombarded the public with information regarding their stomachs, intestinal tracts and the caloric value of various and peculiar edibles. The public, thereupon, with surprising unanimity, commenced to feed "scientifically" (?) and friends who came to dine refused the roast beef or Irish stew and demanded pecans and desiccated bananas. I knew, at this time, otherwise perfectly sane men who ate one meal of fruit, one of nuts and a third of eggs. Others who ate meat alone at one meal and vegetables at another. That wasn't so bad, but it was difficult to endorse the performance of those who breakfasted on raw (soaked) oatmeal, lunched on nuts and dined (Heaven help them!) on boiled spinach and olive oil. Nearly everyone had a food fad of some kind and each and every faddist was sure to impress upon you the fact that, by eating as he did, he would live to bury you and moreover would, meanwhile, be free from all the non-fatal diseases you would inevitably contract.

But, alas! here again something was wrong, for the mortality lists were not materially affected and people persisted in dying or getting into the hands of the surgeons or internists for essential and extensive repairs.

At about this time, I personally began to wonder whether after all it was possible to improve very materially upon methods which had proven satisfactory to our forefathers and, with a sigh, kept on eating (and recommending) bread (made from flour not deprived of all its vital elements), fish, flesh, fowl, fruit, vegetables and dairy products as they were procurable.

Then, one after another came two revelations. To live long you must (1) exercise rhythmically and regularly all the muscles of the body and (2) you simply *must* attend to the lubrication of your internal machinery. There can be little question, of course, that, in the almost universal use of the automobile, may be found the origin of this latter idea and the lack of proper exercise is undoubtedly also due in very large measure to the free use of gas-driven vehicles. Of course, most of the muscles *are* exercised quite energetically if you drive a certain make of small car, but the convulsions are clonic not tonic.

Exponents of the new methods assured the public that it was not so much what they ate as how they took care of what they did eat that mattered, and that, if they would only follow the simple rules laid down, all would be well with them. The lubrication man called attention to the length of the human intestine and laid stress upon the necessity for rapidly

passing waste through it. "Lubricate the tract," said he, "and do it steadily, and there can be no trouble." So, people began to swallow a specially refined cylinder oil and John D. smiled serenely and added another hole to his golf course.

The exercise expounders admitted the value of internal lubrication, BUT demanded that certain rhythmic exercises be taken also. These exercises were, as a rule, just weird enough to be appealing and soon, throughout the length and breadth of the land, men, women and children might be found lying on their backs and stomachs and elevating their legs and arms or bending their anatomies at the middle and intoning, "one, two, three, four; up, down, up, down; forward, back," etc. Most of the rites were (and are) performed immediately upon awakening in the morning, but some, who desire to live to a very old age, do their stunts at night also. Some (especially the fat ones) perform to music.

Just as everything was progressing beautifully, along came someone and talked VITAMINES. If you had vitamines in abundance, you were due to live even as did Methuselah; if you were deprived of them, you surely would head a procession before it was necessary or even desirable. Back with a rush came our old friend spinach (very rich in vitamines) and the homely egg—"the yolk of which possesses a greater food value than any other substance consumed by man."

Straightway, also, someone interested began to impress upon the public the fact that yeast was rich in vitamines and that a cake of yeast a day meant health and longevity. Two cakes a day meant more "pep" and still more time to display it, and three—why you'd *never* die! Anything with yeast in it has of late appealed especially to the American public and as, at the same time, they were being urged to eat raisins, they had hopes that by combining the two they would get results. So, they carried raisins around in little packages for constant consumption and conscientiously ate one cake of yeast three times daily.

When one considers that people were lubricating, exercising, yeasting and raisining all at the same time—to say nothing of absorbing the tonic and nutritive principles of malt and hops most persistently—it would seem that there could be little for doctors to do, and nothing at all for the undertakers. Yet, strangely enough, they none of them seem particularly depressed, and I observe with deep sorrow that the cemeteries are opening new additions! So, from time to time, one's fond hopes for the welfare of the race have been dashed to the ground and there remains only one thing to tie to—or "into" if you prefer—and that is the somewhat smelly but succulent SAURKRAUT.

Offhand, you'd never think that this rather unmentionable cabbage product could make you young and beautiful? But, if we may believe certain extremely earnest advocates, it CAN. Eat kraut freely, they tell us, and you will get thin if fat, fat if thin, rosy if sallow, and velvet-skinned if pimply. Drink, in addition, an ounce of kraut juice before each meal, and diabetes and other disorders due to faulty metabolism flee from you as mists before the sun.

If you have no disease but are just beginning to feel "a little older than you used to be," consume kraut constantly. So may you escape for a while the penalties of age. The older you are, the more kraut you should eat, for, so, you may become older still. See that your progeny receives kraut or its juice early and regularly. Thus they will avoid most of their troubles and grow up physically fit. (N. B. It is not claimed that kraut exerts a direct influence upon the mental or spiritual attributes of the individual but, from a slight acquaintance with the substance, I should imagine it might produce a certain "vague unrest and yearning," so to speak). Be this as it may, you are earnestly urged to remember the fact that, if you eat kraut, you do not require additional lubrication and, as this vegetable is cheap (so far) and oil decidedly high priced, this means a great deal. Further, mineral oil contains no nourishment whatsoever, whereas kraut has vitamines in abundance. So, there you can also eliminate yeast. Moreover, kraut "fills the void" quite satisfactorily, wherefore not much else need be eaten to satisfy even a hungry man's stomach. Obviously, it is THE thing we have been looking for, something odoriferous, tasty, filling, nourishing, bactericidal and rejuvenating. If it can be combined successfully with Limburger cheese, it will simply be beyond expression.

Anyhow, alone or in combination, as its juice or "as is," *Eat Kraut and* LIVE—as long as you can stand it. Mortal man can do no more.

Let's Talk it Over

The Sense of Smell. Odors. Perfumes

DOCTOR EDWARD PODOLSKY, who presents an article on "The Influence of Odors on the Human Body" (p. 817 of this issue of CLINICAL MEDICINE) has opened up a line of thought that is just as interesting historically as it is important today. From the Bible, especially the Song of Solomon, also from the Arabian Nights and from other oriental works, we remember in how high esteem fragrant perfumes were held. The three wise men coming to worship at the cradle of the Child in Bethlehem offered gold, myrrh and frankincense. A few grains of frankincense or a few drops of perfumed oil were regarded as gifts worthy the acceptance of a king or a god. These products of the Orient were equally in demand by the toilet and the temple. The unctorium was an adjunct of the Roman bathroom. Kings had to be greased and fumigated before they were thought fit to sit upon a throne. There was a theory, not yet altogether extinct, that medicines brought from a distance were most efficacious, especially if, besides being expensive, they tasted bad like myrrh or smelled bad like asafetida. And if these failed to save the princely patient, he was embalmed in aromatics or, as we now call them, antiseptics of the benzine series.*

It seems strange to us that this love of perfumes seems to have been a characteristic more of southern people and of Orientals. As far as we remember, neither Cæsar nor Tacitus mentions any predilection for fragrant odors on the part of the Germanic tribes living north and east of the Rhine. Nor do we hear anything of that in connection with Gaul or Britain. The Nibelunge Saga and likewise the Eddas do not mention perfumes, at least not prominently. Such luxuries were brought to Europe by the Crusaders and then, to be sure, they soon came to high esteem.

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During the Unwashed Ages, commonly called the Dark Ages, between the destruction of the Roman baths and the construction of the modern bathroom, the art of the perfumer, like all the fine arts, suffered an eclipse. "The Odor of sanctity" was in highest esteem and, what that odor was, may be imagined from reading the lives of the saints. But, in the course of centuries, the refinements of life began to seep back into Europe from the East by means of the Arabs and Crusaders, and chemistry, then chiefly the art of cosmetics, began to revive. When science, the greatest democratizing agent on earth, got into action, it elevated the poor to the ranks of kings and priests in the delights of the palate and the nose. We should not despise these delights, for, the pleasure they confer is greater, in amount at least, than that of the socalled higher senses. We eat three times a day; some of us drink oftener; few of us visit the concert hall or the art gallery as often as we do the dining room. Then, too, these primitive senses have a stronger influence upon our emotional nature than those acquired later in the course of evolution. As Kipling puts it:

> Smells are surer than sounds or sights
> To make your heart-strings crack.

Today, as always, men are willing to pay high for the titillation of the senses of smell and taste. The African savage will trade off an ivory tusk for a piece of soap reeking with synthetic musk. The clubman will pay $10 for a bottle of wine which consists mostly of water with about ten percent of alcohol, worth a cent or two, but which contains an unweighable amount of the "bouquet" that can only be produced on the sunny slopes of Champagne or in the valley of the Rhine. But very likely the reader is quite as extravagent, for, when one buys the natural violet perfumery, he is paying at the rate of more than $10,000 a pound for the odoriferous oil it contains; the rest is mere water and alcohol. However, you would not want the pure undiluted oil if you could get it, for, it is unendurable. A single whiff of it paralyzes your sense of smell for a time just as a loud noise deafens you.

Of the five senses, three are physical and two chemical. By touch, we discern pressures and

*The last few sentences were copied from Dr. Slosson's remarkable book, "Creative Chemistry," from which a portion of the information contained in this article was abstracted.—ED.

surface textures. By hearing we receive impressions of certain air waves and by sight of certain ether waves. But smell and taste lead us to the heart of the molecule and enable us to tell how the atoms are put together. These twin senses stand like sentries at the portals of the body, where they closely scrutinize everything that enters. Sounds and sights may be disagreeable, but they are never fatal. A man can live in a boiler factory or in a cubist art gallery, but he can not live in a room containing hydrogen sulfide. Since it is more important to be warned of danger than guided to delights, our senses are made more sensitive to pain than pleasure. We can detect, by the smell, one two-millionth of a milligram of oil of roses or musk, but we can detect one two-billionth of a milligram of mercaptan, which is the vilest smelling compound that man has so far invented. If you do not know how much a milligram is, consider a drop picked up by the point of a needle and imagine that divided into two billion parts. Also try to estimate the weight of the odorous particles that guide a dog to the fox or warn a deer of the presence of man. The unaided nostril can rival the spectroscope in the detection and analysis of unweighable amounts of matter.

What we call flavor or savor is a joint effect of taste and odor in which the latter predominates. There are only four tastes of importance, acid, alkaline, bitter and sweet. The acid, or sour taste, is the perception of hydrogen atoms charged with positive electricity. The alkaline, or soapy taste, is the perception of hydroxyl radicles charged with negative electricity. The bitter and sweet tastes and all the odors depend upon the chemical constitution of the compound, but the laws of the relation have not yet been worked out. Since these sense organs, the taste and smell buds, are sunk in the moist mucous membrane, they can only be touched by substances soluble in water, and, to reach the sense of smell, they must also be volatile so as to be diffused in the air inhaled by the nose. The "taste" of food is mostly due to the volatile odors of it that creep up the back stairs into the olfactory chamber.

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Robert Burton ("Anatomy of Melancholy") says that the sense of smelling is an organ of health, even as the sight and hearing (says Agellius) are organs of discipline. By avoiding bad smells as by choosing good, the body can be altered and affected many times.

In the "Anatomy of Melancholy", we read further that "odoraments to smell to, of rose-water, violet flowers, balm, rose-cakes, vinegars, etc., do much recreate the brains and spirits, according to Solomon." "They rejoice the heart", and as some say, nourish; 'tis a question commonly controverted in our schools, *an odores nutriant;* let Ficinus (*lib. 2. cap.* 18) decide it; many arguments he brings to prove it; as of Democritus, that lived by the smell of bread alone, applied to his nostrils, for some few days, when for old age he could eat no meat. Ferrerius (*lib. 2. meth.*) speaks of an excellent confection of his making, of wine, saffron, etc., which he prescribed to dull, weak, feeble, and dying men to smell to, and by it to have done very much good, *aeque fere profuisse olfactu, et potu,* as if he had given them drink. Our noble and learned Lord Verulam, in his book *de vita et morte,* commends therefore, all such cold smells as any way serve to refrigerate the spirits. Montanus (*consil.* 31), prescribes a form which he would have his melancholy patient never to have out of his hands. It will have them spagirically prepared, look in Oswaldus Crollius *(basil, Chymica).*"

Septimus Piesse (says the "Britannica") endeavored to show that a certain scale or gamut existed amongst odors as amongst sounds, taking the sharp smells to correspond with high notes and the heavy smells with low. He illustrated the idea of classifying some fifty odors in this manner, making each to correspond with a certain note, one-half in each clef, and extending above and below the lines. For example, treble clef note E (4th space) corresponds with Portugal (orange), note D (1st space below clef) with violet, note F (4th space above clef) with ambergris. It is readily noticed in practice that ambergris is much sharper in smell (higher) than violet, while Portugal is intermediate. He asserted that properly to constitute a bouquet the odors to be taken should correspond in the gamut like the notes of a musical chord—one false note among the odors as among the music destroying the harmony. Thus on his odophone, santal, geranium, acacia, orange-flower, camphor, corresponding with C (bass 2nd line below), C (bass 2nd space), E (treble 1st line), C (treble 3rd space), constitute the bouquet of chord C.

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It is one of the marvels of modern "creative" chemistry that such delicate and fragile things as perfumes and delicious odors can be produced out of coaltar. There is a sort of poetic justice in this. Millions of years ago, there were trees and flowers, as there are now; they blossomed and decayed even as is the fate of

their present-day successors. They fell to the ground and were covered by earth, by leaves, by rotting wood, by flowers and blossoms of succeeding seasons—until, in the course of innumerable years, they had been pushed so far below the surface of the earth that the enormous pressure, associated with other agencies, condensed them, hardened them and changed them into peat, then soft coal, then anthracite.

Now, the fragrance of the blossom, just like the colors of the rainbow, can be extracted from coal through chemical processes and this prosaic substance has been made to yield up the marvels of bygone periods.

Coaltar (cf. Encyclopedia of Foods and Beverages) is the most prolific of all sources of artificial perfumes. They are obtained from its numerous products in great variety—some closely imitate the expensive natural essences; others have won popularity as delightful odors not met with in flowers. Many are obtainable at such low cost that they have revolutionized some branches of the perfumery and soap trades. Among the most widely employed are Artificial Musk; the Orange-blossom perfume from naphthol ethers; benzaldehyde or artificial oil of bitter almonds, and benzyl acetate, which gives a coarse but pleasant odor resembling jasmine.

H. J. Achard.

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AND, YET, THEY LIVED!

To a man who has lived and practiced before the advent of antiseptic medicine and surgery, and who has followed the advances and changes in theory, in practice, and in results, the question naturally arises in his mind: If the teachings of today are true, how did I get by with the majority of recoveries in the past while ignoring them entirely? I shall not attempt to answer the question or to underrate the importance of surgical and obstetrical cleanliness, but will introduce a few histories of cases that will show what nature has done and can do, where no precautions were taken against the ubiquitous disease germs.

Indeed, when I commenced to practice surgery, the majority of physicians did their own operations at the homes of their patients, calling a few friends to assist them in major operations, and I wish to say that most of these patients recovered with as good surgical results as I have ever seen since. The country practitioner, particularly, exhibited the real qualities necessary for good surgery. Oft-times confronted with desperate injuries demanding prompt action, and miles away from any professional assistance, he would do alone what under other conditions would require a half dozen medical consultants and assistants. These old fellows felt that it was a crime to let a patient suffer or die from cowardice on their part, and they thought for themselves and acted on their own responsibility, frequently doing operations that are now done by only a few recognized surgeons. I wish to pay a just tribute to a class of men who have been displaced by modern methods, but I do not know whether always for the better.

The preparations necessary for a major operation in the country, or in the city either for that matter, consisted in selecting the lightest room on the first floor, a good strong table (very often a kitchen table) with a few quilts or blankets covered over with oilcloth, and a supply of basins, slop buckets and pitchers. A few old linen sheets to be used for dressing material and bandages were provided, and plenty of hot water was kept ready in the nearby kitchen.

The only antiseptic precautions were, simply, to brush the dust off the table and wipe off the field of operation with a wet rag, and all was ready for the surgeons to do their work, which, in those days consisted in amputations, resections, operations for strangulated hernia, lithotomy, and tumors, cancers, and the traumatisms of machinery, and other accidental injuries. There was very little abdominal surgery done in those days, except ovariotomy where the tumors and sacs were very large and interfered with other important functions. Where injuries opened the abdomen and there was hemorrhage or intestinal laceration, the cases were handled as sanely and as successfully as such cases are today, taking into consideration the lack of antiseptic measures, trained nurses and modern hospital facilities.

The surgeons of olden days did not regard the presence of pus in a wound as dangerous or unfortunate, but looked upon it as an effort of nature to help in the repair of the injury. Indeed, a certain grade of it was kindly spoken of as "laudable" pus. I heard nothing of the bugbear of "blood poisoning," but they dreaded gangrene and tetanus. It was known long before the days of antiseptic surgery that a clean, incised wound that was quickly coapted would heal without the formation of a drop of pus, and, what we now call asepsis, they called healing by first intention.

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An example of the technic and disregard of asepsis in those days may be gleaned from a

typical case that I now recall. One morning, I was called to see a butcher at a slaughter house, who, in a fit of delirium tremens, slashed his abdomen open from umbilicus to pubes. Through this opening a large coil of intestines protruded, and some of his friends caught up a greasy sausage tray and held them up in it until they got him home. When I arrived, I found him flat on his back on a lounge and three or four friends with their outspread hands holding down the slippery protruded intestines. With the aid of a medical friend, we sponged off the much-handled viscera, tied a few bleeding twigs of the mesenteric and returned everything into the abdominal cavity, poured in a pitcher of warm water, "sloshed" him around and, turning him on his side let it all run out. We then sutured the wound with stout silk ligatures made of several strands of ordinary ligature silk. We went straight down through everything—skin, muscle and peritoneum, coming back same way on the other side and taking enough stitches to hold everything in securely and reinforcing with strips of old resinous adhesive plaster, which we had to heat and slap on hot to take hold. We corked his bowels up with opium for a week. He never had a single untoward symptom, but, if a fellow ever had a chance to die of peritonitis, blood poisoning or rough internal handling, he surely did.

Other surgery, major and minor, was done in the same business-like way and, while most of our operative wounds were healed by granulation except the clean-incised ones, which healed by first intention, they took a little longer to get well than now. We had pus present over all unhealed surfaces and thought it was all right. We looked upon it as a natural protective of the granulations and not as a menace to proper healing of a wound or injury. I know now that, if we had made cleaner incisions and coapted our flaps better in our amputations, we would have had less pus and quicker recoveries, not by excluding germ-laden air, but by leaving less bridging to be done by the reconstructive cells.

When I consider the wonderful success of these old leaders with their crude methods and faulty equipment, but self-reliant, courageous and resourceful, I am tempted to take my hat off to them today as the greatest surgeons I have ever seen operate.

Another feature I forgot to mention in connection with these operators of long ago. What they lacked in accurate anatomic knowledge they fully made up in boldness and ability to take care of severed arteries, nerves or muscles. They lost no time trying to avoid "cutting something," but just swiped along widely and deeply and did what lay before them; they would tie big bleeding vessels, or suture a nerve when accidentally severed, and go on with their work.

In the field of obstetrics, I have seen some of the most remarkable operative procedures and wonderful recoveries from very unfavorable conditions, where every opportunity existed for infection. There was no special preparation made for these cases, only some oilcloth and quilts or blankets under the sheet that could be removed after the delivery of the placenta. The doctor, or more often the midwife whose "experience" gave her authority, simply greased the hand with common lard and made examinations from time to time to note the progress of dilatation. There was no washing or disinfecting the genitals or the hands of the doctor. The midwife never attempted to remove an adherent placenta, her resources having been exhausted after exhausting the patient "blowing into a bottle" for its expulsive effect. The physician would wait a while and then grease up to his elbow with the dust laden lard and pass his hand into the uterine cavity and peel off the placenta, stimulate the womb to contract, put on a bandage and leave with a clear conscience.

But, we had our desperate cases, too, and met them and saved the majority of mothers and infants. I do not remember ever having seen in those days any douching of vagina or uterus under any conditions, and it is past comprehension how foul and septic discharges finally became healthy and odorless under the processes of nature and women recovered, as it were, by their own recuperative powers. Under the forceful measures of delivery in vogue then, there were innumerable and unavoidable injuries to the soft parts of the whole parturient canal through which septic material could enter the circulation, and did enter it—as was evidenced by fever and other disturbances. Still, in spite of this, most of them pulled through.

Speaking of forceful deliveries reminds me of an experience I had when assisting an old doctor in a case of tardy descent of the head. He had been sitting up nearly all night waiting for some progress, but, in spite of fairly good occasional pains, that head simply occupied the plane of the superior strait and would not budge. The woman was a healthy well developed German peasant and seemed to be indifferent to pain. The old doctor was

hungry, tired and out of patience with his patient and had suggested to another young physician, whom he had called in ahead of me, to put on the forceps, but the young man balked at putting them on with the head just entering the superior strait, and turning to me, he said: "Bryce, can you put on the forceps for me?" I never found this an easy job, but succeeded better than I expected. After satisfying myself that everything was free from the grasp of the blades but the head, I surrendered the handles of the long Hodges forceps to the old gentleman, venturing to tell him not to pull too strongly at first, but to try easing things along. He had the woman brought to the very edge of the foot of the bed, two strong women held her shoulders and with her limbs flexed and two more holding her back by pressing upon her knees. He got in between them and took a vigorous hold upon the handles of the forceps. I saw, it was going to be a question of strength and endurance, and felt fearful of the consequences. He felt his way at first, but finally sang out: "Hold on to her I am going to pull" and sure enough he put his foot against the bedstead and lay back like a man. About the time he had put his best pull in, the forceps slipped off the head by some chance and the good old soul fell backwards in the middle of the room, flourishing the forceps over his head as he went down. Under the liberal use of chloroform and more persuasion with traction in the proper direction, the child was finally delivered, leaving the mother with a laceration of the perineum, which we sewed up then and there, and all went well in spite of the rough usage she and the babe received at well-meaning but fearfully strong hands.

I was called on one occasion to see a woman in her third week of typhoid fever, who had an abortion of a four-months pregnancy. I found the fetus fully expelled and the placenta in the vagina. She had bled nearly to death. The hand passed into the uterus encountered no contraction; what little blood she had, was still flowing as fast as her feeble heart would drive it out. All that I could do was to keep my hand in the uterus and with the other hand compress the relaxed organ externally. Nothing that I did produced the slightest effort at contraction, so, I held her life between my two hands until a medical friend arrived and filled a big syringe full of Monselle's solution of iron. Carrying the long rubber tube nozzle up beside my arm he filled the cavity of the uterus with it as I withdrew my hand. This filled all of the open sinuses with a black coagulum and checked the hemmorrhage. She was nearly dead when we left her, but, under powerful restoratives, she rallied and finally recovered fully.

I have been led to mention these incidents of the past for our present-day confrères to compare with their own experiences of today, and to show what the human system, unprotected and unaided, has done in apparently hopeless instances. It has certainly not been my purpose to discount or discredit the value of antisepsis or improved measures in surgery or midwifery, but to encourage the surgeon when away from assistance, modern hospital facilities and approved antiseptic agents, to do his duty and help nature in her beneficent work. When I think of the marvelous success of the late Lawson Tait, with his thousands of abdominal sections and nearly one hundred per-cent of successes, and remember that the only thing he ever used externally or internally with his patients was plain water taken from the tap in his operating room, I ask myself, have we not in many instances credited antiseptics with more than their worth?

C. A. Bryce.

Richmond, Va.

[In connection with Doctor Bryce's interesting "Looking Backward", we refer our readers to an editorial which will be found on page 794 of this issue of Clinical Medicine.—Ed.]

A GOOD LOCATION

We are informed that Tilla, Illinois, is in urgent need of a doctor. It is a town of three hundred population; situated nine miles from Mattoon, a town of fifteen thousand.

There is plenty of work for a good man.

POST GRADUATE SCHOOL OF NEUROLOGY AND PSYCHIATRY

Under the title of The Post Graduate School of Neurology and Psychiatry of the District of Columbia, a school for the graduate teaching of diseases of the nervous system has been recently organized in Washington, and was opened formally in October. Dr. Wm. A. White, Superintendent of St. Elizabeth's Hospital, is President of the institution; Dr. Tom A. Williams, Vice-President; Dr. Daniel D. V. Stuart, Jr., Secretary-Treasurer; and Dr. D. Percy Hickling, Dean of the faculty. Two courses of study, elementary and ad-

vanced, of six weeks each are to be offered; together with an elective course in special subjects.

YOUR FAR-REACHING DOLLAR

No money spent by you last year had such far-reaching results as your $1.00 membership in the American Red Cross, that organization "chartered by Congress to relieve and prevent suffering in peace and in war, at home and abroad".

Your dollar went out into the by-ways of America and found doctors and buddies to establish government claims of men whose wounds were not healed by the signing of the Armistice.

Your dollar provided board, lodging and clothing for the single men; and for the married men a weekly check covering the needs of their families.

Your dollar (at the special request of the government), sent a Red Cross worker into contract hospitals regularly, to provide the men with hospital clothing, comforts, and occasional luxuries, and to perform those supplementary acts of kindness which a busy nurse could do only at the neglect of another patient.

Your dollar rendered the same service in the homes of out patients.

Your dollar provided a canteen at the Washburne Continuation School so that men learning new trades were able to secure good meals at less than cost.

This service was continued month after month, and in some instances, year after year, until the adjustment of compensation claims.

Your dollar enabled women to learn Braille (the raised system of reading and writing for the blind) and to transcribe much needed reading matter for 500 young men, who lost their eyesight during the war.

It did not stop there, for the American Red Cross, by its Congressional Charter, is officially designated "to continue and carry on a system of national and international relief in time of peace, and to apply the same in mitigating the suffering caused by pestilence, famine, fire and floods, and to devise and carry on measures of preventing the same."

Through classes in Home Hygiene and Care of the Sick, First Aid and Life Saving, your dollar has worked for the civilian.

Through equipment packed and trained workers ready for any disaster, your dollar has worked for the community.

Through the international correspondence work of the Junior Red Cross, your dollar has made world-wide friendships.

Armistice Day to Thanksgiving Day is the time set for the National American Red Cross Sixth Annual Membership Roll Call. The Chicago Chapter plan is to do the work by a house to house canvass, Sunday, Nov. 12th. Send your renewal dollar, or your check out to your local Chapter, American Red Cross, today and receive your Red Cross banner and button. The banner on the window and the button on your coat will encourage your block worker and influence your neighbors to follow your example, even more increasing the value

of Your Far-Reaching Dollar. In this manner, the work of the Red Cross will be carried on. And, it is sadly needed.

TREATING DIABETES MELLITUS

I have chosen this subject, not because I know very much about the disease but because I know that no one else knows very much about it. But, it is tremendously important. And, since it seems to be on the increase and since so many of its victims are men and women who are just reaching their period of greatest economic value, diabetes, like cancer, is crying for discussion. There is no occasion whatever for re-hashing the textbooks here; so, let us consider the disease clinically.

When a patient presents himself, emaciated, weak; thirsty and hungry all the time; mouth and throat dry; pains in the joints and muscles; with pruritus and furunculosis: and when we find that he is passing a large amount of heavy urine containing sugar; and if this condition persists in spite of restricted diet; we say that this patient has diabetes mellitus. Surely, a justifiable conclusion! Yet, while this patient may improve and live for many years in comparative health, and while he is entitled to our very best efforts, nevertheless, this is not the really important case.

When one comes who is in middle life, who has been gaining in weight recently and, who easily becomes tired, whose sleep is disturbed, whose urine is of high specific gravity with from seventy degrees upward of acidity; or, when a pregnant or lactating woman comes with indefinite aching or neuralgic pains, tiring easily, losing weight, whose urine shows the presence of lactose; give them your closest attention; for, they frequently are incipient diabetics.

These are the important cases. They are young enough to be of great service to the world yet, and their death would mean a distinct economic loss to the community in which they live. This loss, too, is preventable.

Too many cases of diabetes are not diagnosed until their symptoms become classic. Too many doctors assure the patient, who does not measure up to the classical picture, that theirs is a milder type and should not be taken too seriously. This is a mistake. Any form of malnutrition is serious and may be fraught with the gravest results. The patient comes because he is alarmed about his condition. He considers it serious. It is serious. The doctor should consider it seriously and treat it seriously.

Many doctors assume that there is nothing to the treatment of diabetes except diet. Such an assumption is not well founded. Treatment should be laid out to fit the individual diabetic just the same as it should be in the individual pneumonia or typhoid case and with as much satisfaction to both patient and physician. Benefit is certain to ensue from a carefully chosen dietary régime, proper intestinal hygiene, well considered therapeusis, and exercise.

There is no profit in giving diet lists here, they can be found in any textbook. But, there is a suggestion that I want to make about giving directions as to diet, and that is, tell 'em what they CAN eat and NOT what they CANNOT eat. Many a diabetic has become discouraged and quit trying to live because the doctor told him what he could not eat and that list loomed so large on his mental horizon that he was overwhelmed with despair. The diabetic has an abnormal nutrition and cannot live like other folks and he must be taught, that this is so. Normal people have become accustomed to what they call a normal diet which, however, varies somewhat with different countries and peoples. The diabetic rebels against his way of living largely because he cannot live like they do. But, if he can be taught how to live in the way that is HIS normal, and to pay no attention to other people's ways, he can get along quite comfortably about as long as anyone else. Even the socalled normal person has lots of trouble when he indulges in dietary errors; so, you see, he hasn't anything much on the diabetic.

Intestinal Hygiene:—By this, I mean laxation and intestinal antisepsis. In laxation, there is not much reason for very particular choosing. Any good laxative combination varied by an occasional morning saline flush will do nicely. In controlling intestinal toxemia (and all diabetics are toxic), there are two methods which may well be alternated from time to time. They are: intestinal disinfection with the sulphocarbolates, and, the introduction of the lactic acid bacillus to discourage the intestinal flora.

Therapeutics:—To keep up strength and courage, I know of nothing better than a pill containing strychnine arsenate, iron arsenate, lithium benzoate and quassia, given every two to five hours according to the nature of the case. While it might not seem desirable to increase an appetite that is already too urgent, you will observe that the appetite of the diabetic is a craving for something more than they already have, while the appetite created by the combination mentioned makes them hungry

enough to satisfy themselves with the food that they are allowed to eat. Then, too, the weakness of a diabetic is not so much a lack of strength as it is a lack of the energy to use their strength, and that combination of remedies energizes them.

To keep down acidity and keep up elimination, I use a mixture which contains sulphocarbolate, sulphate and bicarbonate of sodium; with colchicine, juglandoid and xanthoxyloid.

Also, many diabetics need what the French call remineralization. For that purpose, I use a tablet containing magnesium and calcium phosphate, calcium glycerophosphate, and potassium and sodium bicarbonate.

Now, I do not hold that any part of this treatment should be used either universally or continuously. On the contrary, use it as needed.

Exercise is one of the most important factors in treatment. Diabetics suffer from suboxidation. Therefore, most diabetics take too little exercise. They seem to be unable to take enough. Yet, under the treatment outlined, you will find them not only able to take a reasonable amount of exercise but willing and anxious to do so. They should be cautioned, however, against overexertion.

E. I. Raymond.

Wellington, Colo.

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[This is a specimen of a paper, plain, practical, to the point, such as we should like to receive many from our readers. Doctor Raymond's remarks are thoroughly practical; they evidently are the result of his personal observations and experiences; hence, their immediate appeal to us. More power to Doctor Raymond. May he be successful—and write often.

Also, let others of our readers emulate him in sending us contributions as worth while as the one just presented.—Ed.]

DYSENTERY TREATED WITH INTESTINAL ANTISEPTICS

It is sometimes very interesting to review the various methods of treatment adopted at different periods of simple, every-day ailments, by men who were sincere, who believed they were right; men who had about as much success in effecting cures as the average doctor. In the summer of 1885, a very dear old friend of my father called to pay his annual visit and to discuss the treatment of the prevailing diseases. This grand old man did a rural practice, among not very wealthy but well-to-do farmers, in quite a fertile section of country.

They had gone into the management of a number of diseases when Dr. P. remarked that invariably with the arrival of the first new potatoes, dysentery developed; that Epsom salts *must* be given daily, and that he always got most happy results from the trio, lead, laudanum and creosote. The patient got well after a few weeks, in most cases. It was very rare that one died; but, think of the taste of this horrid mixture.

About 1900 to 1902, when the "W-A Intestinal Antiseptic" was first introduced, the favorite prescription in about 90% of cases (especially those with heavy, furred tongue with bright, red edges, possibly slight nausea, frequent griping pains and straining stools, sometimes only mucus or bloody mucus passing every few moments) was the following: calomel, 3 grains; ext. hyoscyamus, ½ drams; intestinal antiseptic (W-A), 40 grains; made into 10 capsules. One to be taken every 2 hours until easy, then every 3 to 4 hours, with a full dose of Saline Laxative each morning. It was rarely ever necessary to see the patient more than once, and no other drugs were ever needed, if the diet was restricted to tapioca, cornstarch, rice, sago, arrowroot, biscuit and raw eggs in boiled milk; and if no meat or meat juice were given.

In one of the large war hospitals in England, where hundreds of wounded soldiers were being brought from France, certain wards were used for the treatment of certain ailments. One of these wards was given up to dysentery patients and, for two weeks, I was in charge of the lot. It had been several years since I gave up general practice; consequently, I had had no opportunity to use the old formula. Now, during my round on the evening of the second day, the nurse reported improvement in all cases (even amebia) but in one, a poor chap who had been looked upon as past hope. He was an extremely anemic, emaciated, hopeless looking subject, had taken no food all day and his family had been notified of his extremely precarious condition.

In addition to the internal use of the intestinal antiseptic powder in 5-grain doses, every 3 to 4 hours, he was given 20 drops of nuclein solution (Auld's formula) in 10 Cc. normal saline solution, every day, and, on alternate days, in addition, iron and arsenic, intravenously. When the stools assumed a normal odor and appearance, the intestinal antiseptic powders were discontinued. The intravenous doses were continued daily until he was able to sit propped up in bed and take plenty of food, then discontinued. He had been sitting up for several days, sleeping well, a fine appetite,

when I was sent to other fields. The chief reason for the intravenous introduction of nuclein, and iron and arsenic solutions, was to relieve the stomach, giving food only by the mouth.

The prompt improvement in more than thirty patients, when given the old reliable friend, the "W-A Intestinal Antiseptic", was gratifying indeed and was commented upon by a number of men, to whom this valuable product was unknown.

Boyce D. Brooker.

London, England.

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[As will be remembered by most of our readers, the "W-A Intestinal Antiseptic" mixture contains the sulphocarbolates (phenolsulphonates) of calcium, sodium and zinc. The preparation has proved a very efficient one in the hands of many physicians who "could not practice without it". It goes without saying that the intention is not to sterilize the intestinal tract (such a result being impossible of accomplishment) but to diminish the number of pathogenic miscroorganisms and to make the intestinal canal, especially the colon, an unhealthy place for them to live, multiply and carry on their peculiar deviltry. That this result can be procured, has been proved times without number. In infections of the intestinal tract, we like to depend upon the sulphocarbolates. They do not disappoint us.—Ed.]

AN EMPIRICAL BUT SUCCESSFUL TREATMENT OF TYPHOID FEVER

However firmly and intolerantly we may stand upon the supposed infallible ground of regular medicine, and in spite of our aversion to anything which does not bear the stamp of true science approved by the honest results of unbiased research and investigation, we are often tempted to squint over the fence of irregular fields and try empirical means, based upon the theoretically not affirmed principle of the popular: *"Post hoc, ergo propter hoc."* If a suggestion along these lines comes from an eminent man of the orthodox type, we feel more inclined and justified to try the remedy! Such a remedy for use in typhoid fever I received from my venerable teacher, Dr. Wm. E. Quine who for nearly forty years advised to give 3 grains of calomel divided in 20 doses to be given one dose every hour.

I could present a long list of cases to prove the remarkable effect of this treatment, but, for obvious reasons I refrain and only state that calomel in the stated way will *abort* the disease in almost every case and even cut short an attack of established typhoid fever. Any one interested in this proposition is welcome to try or, if he desires to have details, to communicate with the writer.

John Hund.

Peoria, Ill.

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[Dr. Quine's method of using calomel, as described by our correspondent, comes pretty close to the small doses of this valuable drug that we have advocated for many years. It will be remembered that we suggest doses of 1/10 or of 1/6 grain of the mild chloride of mercury. To be sure, we do not stop at that, but employ it only as an initial treatment which, we believe, should be followed up by other appropriate intestinal antiseptics, such as the sulphocarbolates or the chloramine preparations; the vegetable "antitoxic," echinacea, also, has many times rendered valiant service in cases where the intestinal canal was the focus of bacterial invasion.

The principle of antiseptics for counteracting intestinal infection is sound; no doubt about it. The purpose is not, to render the intestine aseptic. Nobody ever had the fatuous idea that that were possible. It is, merely, to limit and counteract the existing sepsis. That is possible, and is done constantly.—Ed.]

IODIZED CALCIUM IN COUGH

Your importunity expressed on pages 559 and 613 of the August Journal can no longer be disregarded; and so I am now going to tell you, as a starter, a little of my experience with Calcidin.

Last Winter and Spring, there occurred in my district a mild epidemic of grip, or what might be called a severe acute cold. It came on suddenly, was markedly contagious, and was characterized chiefly by headache, backache, and neuralgic pains in various parts of the body, with early catarrhal inflammation of the mucous membranes of the upper air passages and larger bronchi, as evidenced by coryza, obstructed nasal breathing, hoarseness, cough and expectoration of white, viscid mucus. The temperature varied from 100° to 104° F. in some instances, during the acute stage; usually, however, not going above 102, while the pulse and respirations were proportionately increased. There was decided malaise, with general depression and loss of strength, coming on quickly after the onset.

If treatment was instituted promptly, these acute symptoms subsided within twenty-four to forty-eight hours, and convalescence was established; though, in most cases, some cough and expectoration persisted for a week or ten days, and (in a few cases) even as long as three to four weeks, while strength and normal energy returned slowly.

In none of my cases, numbering upwards of 100, did pneumonia supervene, and in only one case—an infant of a year old—did the bronchitis become capillary. All of the patients made a good recovery.

Now, what was the treatment? An initial clearing out of the alimentary canal, usually with calomel, podophyllin and bilein, followed by magnesium sulphate; several doses, at short intervals, of an acetanilid combination*, until the headache and pains were relieved and the temperature reduced to normal. This was generally accompanied by free diaphoresis.

Also, from the beginning I gave a tablet of iodized calcium crushed in hot water, every hour, for 6 or 8 hours (to children, gr. 1/3; to adults, gr. 1); then every 2 hours, for a couple of days, and afterwards, every 3 or 4 hours as long as the cough lasted. Where the appetite and strength were slow to pick up, tonic doses of Tr. Nux Vom. and Tr. Gentian Comp. were given with good effect.

The escape of all these cases from pneumonia or other severe pulmonary complications, I attribute to the free use of iodized calcium, or perhaps, I should say, mainly to the free use of this drug.

GEO. ACHESON.

Kingston, N. B.

DEEP TRANSVERSE ARREST

I am not a writer for publication, but I am reporting this case because I think it is an important one.

Mrs. I. B., age 35, a multipara and a second cousin of her husband. Her first child, a girl, eight years old, was delivered with forceps. Her second, a boy, was born in normal labor and was attended by an old woman. With her third, a boy, she had a difficult labor, but no forceps were used. In her fourth confinement, a girl, labor was easy; that is, she was delivered in 15 minutes after my arrival. But, the baby was in asphyxia pallida with cord around neck. All of her children are living and seem to be in good health.

On August 16th, I was called to this patient at 2 a. m. She said that she was suffering labor pains since 6 p. m. On examination I found her in labor, the os dilated as large as a half dollar, a vertex presentation, head above pelvic inlet, no bag of water. Pains seem to be normal at that period of labor. Could not locate fontanel.

Waited an hour; examined again; labor was progressing. Was able now to locate small fontanel on left side, sagittal suture in transverse diameter. Pains continued strong and often until, at 5 a. m., I noticed that they were getting further apart and shorter. I examined again. (I presume there were too many examinations for some of my brothers) and found the head deep at the pelvic floor. I gave her one ampule (½ Cc.) pituitrin (P. D. & Co.) and repeated; but, progress of labor was at a stand-still. The patient said, "Doctor, I'll have to give it up for I am fixing to die."

Well, I did not think she was joking and, as I was not in reach of a hospital, like some of my more fortunate brothers, I got her husband to turn her across the bed. I gave her chloroform and applied forceps with difficulty, as I did not have a low forcep with me and did not have time to get one. I delivered the head under great difficulty and found it still harder to deliver the body. In fact, not until I was able to hook my finger in the arm pit could I free the shoulder which was under the pubis. I now discovered that the cord was tightly wrapped twice around the child's neck. The baby was asphyxiated, but recovered after about two hours of hard work. It weighed twelve pounds, a large head set squarely on the shoulders, large cheeks and an almost flat chin. Baby and mother are doing fine.

The next day, after dinner, I took up the July issue of CLINICAL MEDICINE which I had not had a chance to read, and noticed the article on "Etiology of Deep Transverse Arrest in Median Vertex Presentation," by Dr F. Gross, of Kansas City, Kansas. His second case was outlined as if he had been with me in my case the day before. I have read the article several times since and shall be able to diagnose my next case, though I was unable to diagnose the present case.

I should like to know what is Kristeller's application mentioned by Dr. Gross.

The Surgical Seminar is very interesting, and I wish it would continue indefinitely. It is one of the first things I look for when I get my journal. A medical man on the order of Dr

*The acetanilid combination referred to by Dr. Acheson contains in each tablet: Acetanilid, 1 gr.; Sod. bicarbon., 2 gr.; Monobrom. camphor, ½ gr.; Caffeine, 1/6 gr.; Oleoresin capsicum, 1 1/28 gr.

Gustavus M. Blech may give the little fishes of the profession a few valuable crumbs from his rich table.

I have a book on "Differential Diagnosis", by Cabot. I prize it dearly. If you know of another author of case diagnosis, please mention in your next issue. I appreciate the privilege of reporting this case. This is my first effort, although I have been a subscriber since my second year in school.

R. P. CUMMINGS.

Conway, Ark.

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[Kristeller's method, or technic, is defined by Dorland as a method of expressing the fetus in labor. The head should be in the vulva and the abdomen must be sufficiently relaxed so that the assistant may grasp the fundus. The grip on the fundus is made by the fingers of the two hands parallel behind and the thumb in front, the line of force being in the direction of the axis of the inlet. The expression should be done in one or two sustained efforts.

We do not believe that Cabot's book on "Differential Diagnosis" has ever been surpassed. There are several others that are very excellent, but, in our opinion, the possessor of Cabot's "Differential Diagnosis" will receive in that book ample guidance for the solution of his problems.

Doctor Cummings' first effort at reporting a case certainly proved very successful. We hope that he will not let this be the last but that he will seek frequent access to the reading columns of CLINICAL MEDICINE.—ED.]

DIET AND DRUGS

Hail to Christian science, Sanipractics, Chiropractics, Osteopaths!

We made them. Why not honor our own?

We "dietetic."

They rub and punch and increase the circulation in the irritable muscles and make a fellow feel good for a while. That is more than can be said for the faker with the dietetic bug.

Last year, I had reason to consult a physician. I went to four in a neighboring metropolis. The only misrepresentation on my part was, that I claimed to be a lawyer. "I am in such a state that I am sorry to see a client come into the office, but active while client is present. It is almost a superhuman task to look up the case or even make an entry in the day book. I have been working night and day under a heavy strain. Am all in. Can you fix me up?"

Each had me strip to the waist. In anywhere from ten to thirty minutes, each pronounced my heart and lungs all right, and proceeded to write out a dietetic sheet, after a more or less windy lecture on it.

I made it my business to find out if other patients were treated in the same way. They were.

What hope has a patient, if medical men act like that, except via a "spinal adjustment," prayers, 606, vaccine or monkey glands?

Not long ago, I had a "consultant" walk into a sick room and, before removing his coat he remarked: "I can see now that this child is drugged." He found a temperature of 102 or 103° F., no rales, coated tongue, very foul breath, convulsive seizures about every two hours (history from nurse). He advised the withdrawal of everything except copious draughts of water; that the windows be darkened and the patient be induced to rest. He did not find that the child had a pair of rotten tonsils, 3% albumen and was at that time unconscious. The treatment met with instant acceptance on the part of the parents and the old hens assembled.

But, that nurse was human. She gave the medicine as directed at night. The family gave no medicine during the day. This alternate treatment continued for sixty hours and, when I arrived with the nurse that night, the father, in a red-headed voice, demanded a reason for the boy being so much better in the morning and worse in the evening. He got it and, with it, the alternative of getting rid of me or the daily assembly of old hens. They permitted me to take out the tonsils and continue the medicine in 24-hour series. The boy recovered.

When I see Tom, Dick and Harry, full of pep and laughter, and John, a melancholic grouch, get up from the same table, I know, when John comes to me with a howl about that "hash-house", that it is not what he eats, but what happens to it after he eats is what ails him. It is a case of fix John, not the diet.

When I graduated, I was as full of diet and vaccines as a politician is of promises. I fell fourth in line to a patient, a 5-months old, bottle-fed baby. That baby was weighed and caloried nearly to death when I got it, and I would have finished it had not the family called in a "fossilized old Eclectic" who had sense enough to fill the baby's bottle with real milk, and "dope" it with leptandra and podophyllum until he had its bowels clean. He put chloride of lime in that baby's milk! The baby quit sweating about the head when asleep, com-

menced to teethe without trouble, and showed soon a sprinting gait toward being a prize baby. I date my backsliding from orthodox practice from this experience.

I studied what is now pages 1 to 123 of Abbott's price list. It was in a little pocket-sized yellow cover, and is now doing heroic duty in the hands of a missionary in India. Then I stumbled on Lloyd's dose book. Then I discovered the U. S. P. and the American Dispensatory (Eclectic). Long ago, I found that a drug has no sense. It always works the same way, whether I give it correctly or not. In other words, when I do not get the result I expect, I do not find fault with the drug, but look until I find my mistake. To date, I have scored 100 percent of the mistakes made. The drug can only do what it has always done and always will do under any circumstances, whether those circumstances are right or wrong. It is my part to select the right circumstances, and I am able to do that only if I know my business as well as the drug.

Reverting to diet: A proteid is a proteid and gastric juice will throw it into solution. What is the difference whether you eat egg, milk, beef or pork? If you put a proteid into a dirty test tube without gastric juice, you know what to expect . That is the trouble I find in these "I can't eat this, or that" patients. A deficient enzyme or a putrefactive or fermentative infection predominating. I think nothing of a midnight supper of steak, potatoes and coffee and get up with an appetite for bacon, eggs, and a stack of wheats for breakfast. I am only 51 years old—perhaps my youth accounts for it.

ALBERT A. DAVIS.

Port Angeles, Wash.

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[Doctor Davis is having a glorious time giving Hail Columbia to his colleagues of the medical profession for entertaining some alleged dietetic fads. He prides himself on being a rebel, a heterodox, and, yet, when we come down to bare facts, he simply looks upon things in a commonsense way instead of being a slave to textbooks and instead of accepting every one-sided and forced argument or idea that has been propounded.

It is perfectly correct that, in dietetics as in many other things, some weird and strange assertions have been made, some astonishing teachings have been emitted from the seats of the learned. It is somewhat amusing to consider how ignominiously the sacred calorie has been relegated to a subordinate position but yesterday, and how the mighty vitamine now reigns supreme. A few short months ago, the bugbear of excessive protein portions was made the subject of a powerful attack and the numerous theories and fragmentary ideas promulgated are prone to disturb and to confuse us in our conclusions as to what is a logical manner of feeding the sick and the well.

It is unavoidable that, with new discoveries, we have to readjust our mental attitude and that we may be obliged to reject, as no longer tenable, opinions that had been held as a matter of course. It is a necessary and salutary characteristic of sciences to be in a constant state of flux, to be susceptible to readjustment; in short, of development. If it were not so, if the conclusions from any particular set of facts were definite, final and not subject to further development, science would be dead.

The criterion, it seems to us, of all theories having to do with the regulation of health and the removal of disease is, that they shall be compatible with the demands of commonsense. Far-fetched and half-baked opinions, assertions, claims that are not well-founded on definitely known facts can not possibly advance science. It is only if our conclusions and our actions are in accordance with normal, natural processes that we can succeed.

We agree with Doctor Davis, therefore, when he castigates those physicians who content themselves with a negative physical examination as to the chest organs, to whom coated tongue, foul breath, and so forth, mean purely dietetic restriction. That sort of treatment, being largely negative, is not sufficient to produce positive results. Somebody has said that it would be far more useful not to tell the patients so much that they may *not do*, but to inform them on those things that they *may* undertake. We take it that that is a variety of constructive criticism. Certainly, to accept it and act upon it would lead us further and into more productive fields.

Doctor Davis' experiences with all sorts of drugs that are not recognized in the U. S. P. and in the National Formulary is interesting and is duplicated in the practice of numerous other physicians. Experience and observation have shown that there are numerous drugs that accomplish certain things. Those of us who have studied drug action can use medicines to advantage. Those who are superior to such simple (?) means as drugs soon are led into the error of therapeutic nihilism. Strangely enough, it is the experienced and observing therapists who do things and who are successful. The nihilists, with their expectant mode of treatment, sign more death certificates and,

incidentally, lose more patients to their colleagues. The patients have a little way of wishing to be cured. Expectant treatment, watchful waiting, does not, they apprehend, get them anywhere. They want something done. And, supposing the results of that something that is being done are traceable to "merely psychic influences"—what of it, since we must recognize and acknowledge that the psyche of the patient has much to do with his well-being and for his recovery. Anything that stimulates the psyche in the right direction accomplishes good.—Ed.]

RHINITIS

Rhinitis, or Nasal Catarrh, is one of the most frequently encountered diseases and, from my observations, I am led to believe that the treatment of this condition is repeatedly neglected. This, therefore, is my reason for drawing your attention, without reference to the ponderous amount of literature available, to the simple forms of this disagreeable and distressing disease.

Simple Acute Rhinitis or Acute Nasal Catarrh is one of the most prevalent diseases of our variable American climate and is an inflammation of the nasal mucous membrane.

Symptoms:—The disease usually begins with a feeling of malaise and a slight febrile reaction, headache, sneezing and a stuffiness of the nose followed by lachrymation and nasal discharge, at first watery and acrid. After twenty-four to thirty-six hours, the discharge becomes mucopurulent and is profuse. The nasal passages become more or less obstructed from swelling of the mucous membrane and turbinal tissue and this induces mouth-breathing, impairment of taste and secondary pharyngitis and laryngitis.

The discomfort attendant upon the obstructed air-ways becomes worse at night and sleep is interfered with, the obstruction usually alternates from one nostril to the other. The discharge, especially in children, is of an irritating character and often produces excoriation about the nasal orifice and the upper lip. On account of the obstruction, nursing infants encounter great difficulty in taking nourishment. The disease may last from a few days to several weeks.

Etiology:—The infectious nature of this disease is well recognized and the researches of many workers have demonstrated that various organisms may be responsible. Those found most frequently are Bacillus Influenzæ, Micrococcus Catarrhalis, Bacillus of Friedlander, Pneumococcus, Streptococcus, Staphylococcus, Bacillus Septus. In forty to fifty percent of cases, one organism may so predominate as to justify the conclusion that it is the cause of the attack. More often, two or more organisms are associated.

Predisposing causes:—The predisposing causes which allow these organisms to incite an attack of rhinitis are, physical and nervous exhaustion, rapid changes of temperature, draughts of cold, damp air blowing upon an overheated skin, smoke, dust, and other irritants to which industrial workers are exposed.

Those suffering from deformities of the septum and turbinates, polypi and constitutional disorders, such as gout, rheumatism, diabetes, dyspepsia, constipation, cardiac diseases, etc., are naturally more susceptible to attacks.

Prevention:—The patient who is repeatedly "catching cold" requires careful examination and treatment of any underlying cause, removal of all nasal deformities and growths, and close attention to correct habits of life. The importance of fresh, frequently renewed air, particularly in the bedroom, should be insisted on. The tonic effect is most important. The healthy action of the skin should be maintained by baths and exercise and by avoiding an overload of clothing. It is well to regulate the amount of clothing to the conditions of life, age, health, locality, occupation and exposure of the patient. In winter, children are often sent out swathed in mufflers, with a thick woolen cap on the head, the legs weighted with leggings and the body covered with a heavy woolen jacket. They become flushed and fatigued at their games from the weight of unnecessary clothing and, when resting, cool off without the possibility of evaporation of the perspiration taking place. Then, with their underclothing saturated, they are very susceptible to catarrhal attacks. Close-knitted woolens and flannel should not be worn next to the skin. They are non-absorbent and prevent evaporation of the skin moisture. Silk, linen and cotton are preferable; they are absorbent and permit evaporation of perspiration and the natural action of the skin is maintained. Protection of the feet from dampness and cold is of great importance. Excess of food, alcohol and tobacco are factors leading to diminished resistance and this predisposes to catarrhal infections. Constipation, which is primarily due to self-indulgence and neglect, should be rigidly avoided. The injunction "Clean out, Clean up and keep Clean" is of immense importance.

Treatment:—The objective in the treatment of this disease is, to mitigate and shorten the attack. A warm bath, moderate purgation and rest in bed will accomplish this in a surprising way; but, as the disease is not a disabling one, only a small proportion of our adult patients will submit to a method of treatment that will interfere with their occupation, and they are oblivious to the infectious nature of the disease. We are, therefore, compelled to adapt our treatment to ambulatory conditions. It is of the utmost importance to first obtain one or two free movements of the bowels, and this is best accomplished by giving calomel in divided doses, followed by saline laxative the following morning. The diet should be simple and excesses of food, coffee and tobacco avoided. Lassitude, headache, pain in the limbs and slight febrile conditions are satisfactorily relieved by neocinchophen, 5 grains every two to six hours. Diaphoresis and diuresis should be promoted when possible by hot drinks, preferably hot lemonade.

Much success has attended the subcutaneous administration of vaccines. The following combination has given me splendid results:

Influenza Bacillus	200,000,000
Friedlander's Bacillus	100,000,000
Micrococcus Catarrhalis	200,000,000
Streptococcus	100,000,000
Pneumococcus	100,000,000
Staphylococcus Aureus	200,000,000
Staphylococcus Albus	200,000,000

It is more effective if given early in the disease. The dose is from 2 to 5 minims in the first twenty-four hours, and can be repeated if necessary at one or two days' intervals. It may be given with other general and local treatment if desired.

Local Treatment:—The beneficial effect of local treatment is most gratifying to the patient, contributes largely to the early termination of the disease and should be used several times a day. The nasal cavities are sprayed with a warm solution of normal saline (Sodii Chlor. dr. 1, Aquae O. 1) and the liquified debris and mucus blown out. This should be followed by an antiseptic oil spray. Dichloramine—T (Abbott's) used in a 2% solution with an all-glass atomizer is most effective. Cocaine should not be used.

This simple and easily-applied treatment will in a great majority of cases attain our object, i. e. modify the disease, render it milder and shorten the attack, and the patient will be less liable to suffer from injurious sequlæ.

When the acute stage is past, quinine, iron and arsenic, with or without nuclein, may be given with beneficial effect. It is easily given and readily accepted in tablet form.

Simple Chronic Rhinitis

Simple Chronic Rhinitis, or Simple Chronic Catarrh, is a chronic inflammation of the nasal mucosa associated with hyperemia, swelling and hyperplasia of the soft tissues and an increased flow of a tenacious mucopurulent secretion.

Symptoms:—The most prominent features of this disease are, a profuse discharge of secretion and internasal obstruction. The discharge is at first of a thin, mucoid character, but, as the condition progresses, it becomes mucopurulent, thick and tenacious and often forms crusts on the turbinates and septum. Hawking and spitting from accumulations of secretion in the postnasal area are disagreeable features. The obstruction is intermittent and is usually worse after meals and at night. During sleep, the dependent side becomes occluded so that mouth-breathing and snoring afflict the sufferer. Dull pain over the bridge of the nose, headache, impairment of smell and taste and a feeling of lassitude are prominent complaints. Pharyngitis and laryngitis are often present.

Etiology:—The causes of simple chronic rhinitis are almost identical with those producing the acute form of the disease. Frequent recurring attacks of acute catarrh form one of the most potent causes. Although chronic rhinitis is not believed to be infectious, microorganisms similar to those found in acute rhinitis are present, the Bacillus of Friedländer being found in all cases.

The predisposing causes are similar to those attending acute rhinitis. The most common cause in children is inflamed adenoids. In many cases, the catarrh is secondary to mechanical obstruction of the air-ways, such as deviations of the septum, osseous enlargement of the turbinates, and narrow nasal chambers. The disease is more prevalent in men than in women.

Diagnosis:—In the diagnosis of this disease, it is necessary to differentiate between the simple and the hypertrophic forms. The diagnosis is founded upon the clinical history, the condition of the nasal mucosa and the discharge.

Treatment:—The disease is aggravated to such an extent by occupational conditions, climate, habits of life and constitutional diseases, that it is often a difficult matter to entirely eradicate it. The treatment of underlying constitutional defects and the adoption of simple forms of exercise, moderation of the diet and the correction of personal and domestic hygienic conditions will do much to restore the nasal tract to its normal state. The vaccine method

of treatment of chronic rhinitis is strenuously advocated and undoubtedly gives excellent results. An autogenous preparation is preferred by some, while others are content to rely upon a stock preparation. I have found the following combination useful:

Friedländers Bacillus	300,000,000
Pneumococcus	80,000,000
Micrococcus Catarrhalis	200,000,000
Streptococcus	60,000,000
Staphylococcus Aureus and Albus, each	200,000,000

The dose which I prefer is from 3 to 5 minims repeated every six days. It is given in connection with other general and local treatment.

Local Treatment:—The nose is regularly cleaned with a spray of warm normal saline and the liquified débris blown out. This is followed by a spray of a 2-% to 5-% solution of aromatic chlorazene (Abbott's) used in an all-glass atomizer. Before retiring, an oily antiseptic can be substituted with the expectation that the accumulation of secretion, which obstructs the nasal passages, is prevented and the patient's sleep uninterrupted. The use of astringents is to be avoided. Cocaine should not be used.

This treatment, persisted in for some weeks, will usually cure the ordinary case. When the disease is dependent on the obstruction of the nasal airways due to deformities of the septum, enlargement of the turbinate, affections of the postnasal space or diseases of the accessory sinuses, special treatment is required.

The majority of children suffering from chronic nasal catarrh are cured by removing their adenoids, while in adults many cases are relieved when attention is directed to the treatment of the accessory sinuses.

W. T. M. MacKinnon.

Ottawa, Ont.

A SATISFACTORY TREATMENT OF SUBINVOLUTION OF THE UTERUS

Patient aet. 30. Mother of one child, four years old. Several months ago, had a miscarriage. Was taken to hospital. Had various operations; curettage, removal of appendix. Of all this I had no personal knowledge. Several weeks after her return home, she menstruated normally. Then, while in attendance at camp meeting, overdid, as she puts it, and began flowing. At this time, I came into the case. I found no rise of temperature, pulse slow, patient anemic; history of severe flowing for several days. Found womb patulous and boggy to touch but containing nothing. There was a complete lack of contractility. She had taken freely of ergot, but with no appreciable results. There would be a heavy flow with many clots; aching in the back, severe vomiting, all the time. She was very weak from loss of blood and no intake of food. She was nervous and apprehensive of death.

It is some time since I have had a case of subinvolution to treat, but I resorted to a treatment I have used in the past with good results. This treatment is presented to the readers of Clinical Medicine with the assurance that it will prove efficacious.

After thorough physical examination, I gave, first, one tablet (1-500 gr.) of glonoin. This was crushed between the teeth and absorbed in the mouth without drink of any kind. Immediately, the same amount of hyoscyamine was given in the same manner. The first dose immediately dilated every capillary in the body. Then, to steady the action, the hyoscyamine comes in to hold the dilatation. Immediately the patient complained of fullness of the head and I knew by the pink tinge shining in the finger nails and the vermillion border of the lips that the capillaries were dilated and would remain so for a while.

I now asked for three drinking glasses, or tumblers, each two-thirds full of water. In the first, I dissolved 5 tablets of 6x Arsenicum Album. In the second, 2 granules of atropine, 1-500 grain. In the third, 10 drops specific tincture pulsatilla were added. Directed to alternate these liquids every half hour while awake. Dose, one teaspoonful.

I only made two calls. Later, the mother reported to me daily and then every other day. At the end of three weeks, the patient was quite well again. I left also several 5-grain phenalgin tablets, one to be given daily if needed.

There was no rise of temperature and all the tablets were not needed.

Now, my reason for doing all this: A large portion of the blood belongs normally in the capillaries. In shock, pain or hemorrhage, the blood leaves the capillaries and congests about that portion of the body affected. By withdrawing this congestion to the capillaries and keeping it there by small doses of nitroglycerin, hyoscyamine and atropine, we keep up a normal condition and relieve the affected parts.

Pulsatilla is one of the finest tranquillizers of uterine troubles that I know of. It soothes the nervous woman suffering from these conditions more surely and safely than opiates. Here I deviate from the beaten track to say that, in dysmenorrhea, give the following and you will

be pleased and astonished at the quick relief given: Nitroglycerin and hyoscyamine as described. Then follow with pulsatilla every half hour till relief, which comes very soon.

For vomiting, I know of nothing so sure of giving relief as arsenic in very small doses. I am a regular old-school physician—dyed in the wool. But, from my wide reading, I have found in the socalled irregular practices some valuable suggestions as to treatment, and this is one. If I do not have the tablet mentioned, I dissolve two granules (1-1000 gr.) of arsenate of copper in a glassful of water. Dose, 1 teaspoonful every ten to twenty minutes till relieved, especially with little children. Withhold all food and drink and ice. You who have difficulty now with bowel trouble in children will find real help in this.

I sometimes use 5 drops of Fowler's Solution in a glass of water with good results. The first foregoing treatment relieves the centralization of expulsive efforts in the uterus, equalizes the circulation and then the irritated and overburdened uterus has a chance to use its inherent power and gradually lose its boggy, non-resilient action; takes on its normal elasticity and slowly but surely contracts to proper size.

C. S. Copp.

Tacoma, Wash.

This attractive house is the residence and also contains the office of Dr. J. H. Barnard, of Whitehall, Mich.

TROUBLES OF THE DOCTOR IN COMBATING NATIVE MEDICAL BELIEFS AND CUSTOMS

A young lady came in to be treated for a conjunctivitis. She also wanted a remedy for earache in a younger sister. I told her to bring a vial and I'd give her something. Vials are a scarce commodity here.

She didn't come. I met her a few days later and inquired about earache. "Oh she is all right." "With what remedy?" "With urine." Animal or people? Of Christians (so they frequently call human beings). Man or woman? Woman's, although man's is better. One drop at a time until three drops are used.

A 2½-year-old child with convulsions. I gave remedy and in an hour reported no more convulsions. But, they wanted to use a poultice of bruised leaves with human urine on stomach. Only, somebody told them, if they used their remedies with urine, I wouldn't give 'em anymore, so, they came to ask me. I forbade the urine part.

A 3-mos. babe had erysipelas developing supposedly from an insect bite on left shin. I saw child in evening first, then next morning when it was improving. That evening, I met the mother with two big toads, each as large as a big man's fist. She said, neighbors had told her that toads would cure erysipelas quickly. I told her, if she used toads, she couldn't have any medicine. She said she wouldn't use the toads. Next morning, I was going into the country for a week. I slipped in to see the child. It was lying on its back while the mother held a toad by the forelegs with one hand and the hind legs with the other, drawing it backwards across the naked abdomen—the babe crying meanwhile; toadskin is rough as a rasp.

I did some talking, but didn't leave medicine. When I returned, she was the first to meet me. Was crying as she thought that baby would die, and begged me to do something for it.

It recovered in a few days, with a scarred glans penis where ants had bitten it, causing an ulcer.

Peculiar accident. A ranchman told me, he allowed some milch cows to sleep on his lawn —that is, in the front yard of dwelling. His house has a door on each side. One dark, rainy night, before day break, he started to go out the front door, fell diagnonally across a cow lying in the doorway and fractured two ribs. I've stayed many nights in his house. He allows sucking calves to sleep in the yard, but cows must stay out.

Quite a dosimetric dose. Just made a visit to a man who has not had a bowel movement for 8 days. I wanted to give an enema but had no syringe. However, his wife brought out an ox gut 2½" diameter and 2' long and said, she thought she could rig up a rectal tube and give an enema. I left a lot of purgatives to be used in case they failed. They failed, but, on the tenth day, cathartics didn't fail.

A married woman had an attack of conjunctivitis. She used collyrium (brown—no other kind here) and sugar water for one day; the next day, changed to pure lemon juice. Worse. So, at night she applied human urine, full strength. I didn't inquire whether male or female. Sat up and cried all night. Next morning, at sunrise, her husband brought her to me for repairs. About the third day, she was quite well. Brought me 30 foot of hard, white rope, pencil size; some fiber to make more to suit myself, and 8 biscuits, 3 of casava (they call it Yuca here), 5 of corn. May pay more later.

Am mailing a Tapir's toe. The horny portion, scraped and boiled a few minutes, is said to cure pain of the heart. A case is reported where it cured a young 17 to 18 yr.-old woman. Required a whole toe. Might have been pains of love.

An old man told me in all seriousness of an old priest on the Putamayo river (the next stream south of me) who, having a bad toothache, complained to an Indian medicine man who relieved him by bringing a handful of dry crushed leaves, telling him to chew a mouthful well, then to spit them out. This he did, the toothache being relieved by the first chew. With second chew, the tooth fell out and when the last chew was ejected, he was toothless. On awaking the next morning his mouth was full of perfect teeth, same as at thirty years of age. No offer made to that priest would purchase the tribal secret.

Some Remedies Used in Caqueta Valley, Colombia S. A.—Rings of iguana skin, cut from foreleg of animal worn on each wrist, to cure rheumatism.

Rasped, having part of tapir's toe nail to cure pain of the heart—probably *Love* pain, as all cases I heard of the remedy being used were in girls of 16 to 18 years. To prepare, the raspings or scrapings are simply boiled in water a few minutes.

For purgative—A certain ripe fruit [not designated.—Ed.]. Take a cup of boiled, hot water, immerse the fruit. For a small child, move it once around the edge of the cup, for a youth, twice; for adults three times and out. Not long ago, a man took the remedy on Wednesday. He purged until Saturday when he walked ten miles to me, almost too weak to make the trip. I gave the proper antidote, I guess. At any rate, at noon, Monday, he said he was O. K. and left for home.

Thousands of intestinal worms here; even in suckling babes (must be born with 'em?). I gave only 4 Barron's to a 15 months' kid. Mother reported a harvest of 32 worms (from 3½" to 7"). A couple of days later, a mother competing to get the largest number, reported, 39, some of them being 10 inches in length, and more expected.

Man says that carrying load by tump-line across forehead weakens his loins until he can barely straighten himself. A good hot drink of infusion of fresh corn-silk gives prompt relief.

Tapir's toe nail should be used; from the male for a woman, from the female for a man. Results would be disastrous if this were reversed.

I spent last week on a ranch. For the first 3 meals, I ate grey monkey. The small red ones are said to be more delicate, better suited to fastidious gastronomical tastes?? For the balance of the week, I had tapir meat. The skin on the back of neck, ½" thick, is cooked like hog's ears. Not so good. The fore feet have 4 toes like a cow's, the hind feet have 3. I saved specimens. I ate snakes, in Guatemala (just a little), 'gator and eagle in Florida; iguanas in Guatemala, too.

Geo. Mott.

San Vincente, Caqueta,
Colombia, S. A.

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[Practicing among the natives (many of them Indians, we believe), in Colombia, must occasionally be a rather hectic procedure. Doctor Mott has a splendid opportunity to study folklore and the practices of the medicine man. It always is interesting to learn how others are doing things.—Ed.]

Buy Christmas-Seal Stamps!

What Others are Doing

THE VALUE OF CODLIVER OIL

Codliver oil has been employed therapeutically for more than half a century and various attempts were made to explain its beneficial action upon the organism, especially in cases of malnutrition. In 1895, Bartholow criticized the opinion that any oil or fat, even glycerine, may be used in place of codliver oil, and that cream has been prescribed in this belief. Linseed oil has been considered to have some special efficacy in wasting diseases, more particularly in phthisis, because of the large amount of vegetable albumen which it contains. These notions Bartholow declares to be erroneous. Codliver oil, he says, has special therapeutic virtues, because it contains gaduin, propylamin, the constituents of bile, iodine, phosphorus, bromine, etc., in addition to the ordinary ingredients of an animal fat.

H. C. Wood ("Therapeutics", 1905) refers to the food value of codliver oil which, he says, undoubtedly tends to produce obesity. "But," he continues, "as no other oil is able to supply its place in various chronic diseases, it must have some influence upon nutrition not shared by ordinary fatty matters and, therefore, it is an alterative." Incidentally, might it be objected that this position taken by Professor Wood is reprehensible, for the reason that it is clearly "empirical" and empirical methods of treatment are said to be unscientific!

According to Hare ("Practical Therapeutics", 1909) "codliver oil depends upon a number of substances for its peculiar effect. The iodine certainly exerts definite alterative powers and the oil seems peculiarly adapted to digestion and absorption. For, codliver oil passes through animal membranes very readily, probably owing to the biliary salts contained in it.

"The oil aids in the maintenance of bodily temperature by its oxidation, and causes a deposit of fat in the tissues. It also seems to influence the blood directly, for clinical observation shows that anemic persons become healthy-looking under its use, and Cutler and Bradford have found that this apparent improvement is a physiological fact, the red corpuscles being always increased. It has been proved by experiment that codliver oil is more readily oxidized than any other oil."

In the last edition of his "Therapeutics" (1922), Hare mentions investigations of the last few years as having shown that a large part of its value is due to its high content of fat-soluble vitamine-A which is in part destroyed or diminished if the oil is too greatly purified, in order to make it more agreeable.

H. C. Wood (l. c.) had deplored the fact that the action of codliver oil had not been investigated in healthy individuals. This omission has since been made good. Bulletin No. 1033, issued by the U. S. Department of Agriculture (July 27, 1922) refers to several experiments of this kind which had been undertaken not only in animals but also in healthy persons. Such studies of the value of fat are stimulated, especially, through the observation during the recent war that, in the countries where the food supply was far below normal, great discomfort and a serious lowering of health, of resistance to disease were common. Physiologists generally believed that this was due, to some extent at least, to a lack of vitamine-A. True, it may enter into the question that fats and oils represent the most concentrated sources of body fuel, a fact that has an important bearing on the food transportation problem and on the cost of food to the consumer.

As to codliver oil, the Bulletin referred to reports on experiments made in human subjects for the purpose of determining the digestibility of codliver oil. The food eaten per man, per day, provided on an average 16 Grams of protein, 47 Grams of fat, and 310 Grams of carbohydrates, and its fuel value averaged 1,740 calories. The maximum amount of codliver oil consumed by any subject was 53 Grams per day. The coefficient of digestibility was high in every case, and the average figure 97.7 percent indicates a very complete utilization. Except that all the subjects were somewhat constipated, no physiological disturbance was noted. It was found that, in thoroughness of digestion, codliver oil agrees closely with the majority of fats and oils that have a melting point at or below body temperature.

The fact that the subjects were somewhat

constipated, seems to us somewhat surprizing, since the fatty acids commonly are prone to incite looseness of the bowels.

The Bulletin referred to describes investigations relating to the digestibility of other oils, mainly vegetable, such as Java-almond oil, tea-seed oil, watermelon-seed oil, also deer fat, blended hydrogenated fats, etc., with the result that, in digestibility and completeness of utilization, codliver oil was found to stand first. Next to it comes Java-almond oil, the digestibility of which is 97.0 percent. Corn fats were utilized in the degree of 93.2 to 91.5 percent. Peanut fat seems to be utilized very well, the findings being between 96.6 and 92.8 percent.

These experimental results are of interest in so far as the deliberate ingestion of fats, especially of codliver oil, is justified thereby in cases of malnutrition, of wasting diseases, and so forth. While it can not be said that any special or even specific virtue resides in codliver oil, for the treatment of diseases like pulmonary phthisis, the food value of codliver oil in such maladies is undoubted and becomes enhanced through the introduction, with the codliver oil, of the fat-soluble vitamine-A which, it seems to us, is of greater usefulness than the somewhat problematical (because minute) therapeutic virtue of the contents of codliver oil in iodine and other alterative drugs. These latter can easily be administered separately and in definite dosage. For a readily assimilated fat, for the stimulating effect of the fat-soluble vitamine-A, codliver oil appears to have fully justified its claim to a place in the materia medica.

If the principal claim to recognition, of codliver oil, lies in its ready and complete utilization and in the fact that it contains the fat-soluble vitamine-A, it might be objected that there is no need to resort to the ill-smelling product of the cod, which reminds the unfortunate patient of its presence in his insides by frequent and long-continued, disagreeable eructations. Other fats that carry the same vitamine might, it would seem, be properly substituted for it.

Unfortunately, such a conclusion does not appear to be warranted by clinical observation. It occurs frequently enough that a child's digestion is disturbed by ordinary amounts of fat and that, yet, a reduction of the fat intake is followed by emaciation. In such instances, Oliver T. Osborne ("Principles of Therapeutics") says, codliver oil in small amounts will solve the nutrition problem.

There is something else. Codliver oil has been found distinctly beneficial in rickets. Yet, it has been determined that rickets is not the consequence of privation of the fat-soluble vitamine-A. Indeed, certain observations seem to suggest that rickets is far more a disease of light-deficiency than of vitamine-deficiency. At least, Doctor Pacini's article, on page 797 of this issue of CLINICAL MEDICINE, permits us to advance this tentative conclusion. If, then, it is neither the food value nor the vitamine-A content of codliver oil that render this substance such a valuable agent, there must be another constituent that is responsible for this superiority. As far as we know, the chemical analysis of codliver oil has been determined completely. The question of vitamines, also, has received careful attention. Yet, we can not say that the answer has been supplied to the question as to just why this particular substance is superior to others that supply the same chemical parts (fat) and the same fat-soluble vitamine-A. All we know is, that, under certain conditions, nothing will take the place of codliver oil in the successful treatment of our patients.

POISONING BY GASOLINE FUMES

With the increasing employment of gasoline, not only in private and public garages but also in the industries, the occurrence of poisoning through the fumes of gasoline becomes very important. *Public Health Reports* for September 22, 1922, contains a special article entitled "Study of the Effects of Gasoline Fumes on Workers". In this article, the symptoms produced by gasoline fumes are described as follows:

1. Dizziness.
2. Irritation of the throat.
3. Cough.
4. Headache.
5. Vertigo.
6. Drowsiness.
7. Loss of appetite.
8. Distaste for food.
9. Constipation.
10. Pain in the stomach.
11. Nausea.
12. Vomiting.
13. Stupidity and listlessness.
14. Loss of strength.
15. Insomnia.
16. Loss of weight.
17. Paleness, or loss of color.
18. Aching eyes.
19. Conjunctivitis.
20. Muscular twitching and impairment.
21. Exhaustion.

Petroleum distillates, however, produce an acute condition, the symptoms of which are usually given as "headache, nausea, stupid feeling, heaviness or sleepiness, roaring in the ears, inclination to cough, feeling of irritation and constriction in the throat, trembling of the hands and arms, sensation of crawling over the skin, excitement or irritability. Girls are said to grow talkative and foolish and laugh a great deal; men are said to be unreasonable and

easily provoked to anger. These symptoms may be felt most intensely during the first hours of the day, but in other cases they come on when the person leaves work and goes out into the open air." The work people call an acute attack of such poisoning a "jag".

The acute cases, as here described, seldom occur; but at times they do occur, with the patient passing on to a comatose condition, with cold skin, pale and pulseless, and sometimes resulting in death.

The chronic form is a continuation of the conditions listed above which sometimes go to the extent of extensive impairment of the health of the individual, owing to changes in the nerve or muscular systems and sometimes alteration of the blood.

The results of the entire study have justified certain conclusions which are enumerated as follows:

1.—The gasoline fumes liberated in the workroom studied had produced cases of mild chronic gasoline poisoning.

2.—In workrooms where the ventilation is not adequate, the liberation of gasoline fumes from open containers or from processes will, sooner or later, depending upon the amount and the concentration of the fumes, produce cases of acute, mild chronic, or chronic gasoline poisoning.

3.—The liberation of gasoline fumes above an undetermined concentration, in an improperly ventilated workroom, will result in increased dispensary attendance and absenteeism among the workers exposed.

4.—Increased production and a lower rate of dispensary attendance were obtained by the removal of the gasoline fumes.

DIGITALIS THERAPY

Digitalis est mater studiorum and it is never amiss to emphasize the value of such a potent drug as digitalis.

This is excellently done by Dr. G. H. Borksdale in an article appearing in the *West Virginia Medical Journal* for September, 1922, Vol. 1, No. 3. Pointing out first its physiologic effects upon the cardiac cycle and incidentally on the general circulation, Dr. Borksdale makes especially emphatic the following points:

1. There are most definite indications for the administration of digitalis, the chief of which is failure or threatened failure of compensation.

2. The digitalis tincture is the best preparation since it represents all the properties of the drug, while the leaf preparations are inconstant in efficacy. [This is debatable. Several leaf preparations are superior to the tincture, in our opinion.—Ed.]

3. Digitalis is of no value as a cardiac stimulant in a heart laboring against a toxemia.

The conclusions of Dr. Borksdale are in accordance with the teachings of such cardiologists as MacKenzie and Eggleston, and are well worth to be kept in mind when treating patients with heart trouble.

THE PYRAMIDON TEST FOR BLOOD

The discovery of occult blood by chemical means frequently is a very important procedure and has exercised the ingenuity of laboratory men for years. The guaiacum and the benzidine tests have been in common use, but seem now to be superseded by the pyramidon test, which was discovered by Thévenon and Rolland.

According to *The British Medical Journal* for June 10, 1922, (Epitome, p. 92), A. Fortwaengler (*Zentralbl. f. inn. Med.*, May 13, 1922) confirms the claims of other authors concerning pyramidon which has proved to be a very delicate test for the presence of occult blood. The solutions required for the test are:

1. Pyramidon 5, alcohol (95%) 100.
2. Glacial acetic acid 25, distilled water to 50.
3. Hydrogen peroxide 3 percent.

The original method was as follows:

To 2 to 3 Cc. of the fluid to be examined were added 6 to 8 drops of the acetic acid solution, 2 Cc. of pyramidon solution, and 6 or 8 drops of 3 percent hydrogen peroxide. The appearance of a lilac color is positive for blood. The author has increased the acetic acid solution to 16 drops and the peroxide solution to 12 drops, and claims that this gives a more rapid and distinct coloration. The author finds that, while the guaiac test is only positive in a 1 to 1000 dilution of blood, pyramidon shows blood in 1 to 21,000 dilution. The usual technic for extraction of occult blood from stomach content and feces was employed.

Among the Books

KNOPF: "NATIONAL TUBERCULOSIS ASSOCIATION"*

A History of the National Tuberculosis Association. The Anti-Tuberculosis Movement in the United States. By S. Adolphus Knopf, M. D. National Tuberculosis Association, 370 Seventh Ave., New York. 1922.

It has been said that the history of a people is made up of the histories of its great men and women. The same may be held to be true for the histories of great movements, of important associations and societies.

In recognition of this fact, Doctor Knopf, who was exceptionally well qualified to function as the historian of the National Tuberculosis Association, prepared his history largely in the form of biographies of the officers of the association who, very naturally have been and are its leaders. These biographies gain in interest because of the portraits that are appended to them and also on account of the bibliographies in which lists of literary contributions of each person are presented.

This, perhaps the most important part of the book, is the third in sequence. It is preceded by a first part, dealing with the early history and development of the association, in which such matters are discussed as the Tuberculosis Christmas Seal, the Framingham Demonstration, the State Tuberculosis Associations, the Sixth International Congress (held in Washington, D. C., 1908), the Double-Barred Cross.

The second part is devoted to a review of the annual meetings of the National Tuberculosis Association, of which the seventeenth was held in 1921. While this history purports to relate the fate of the association during its fifteen first years of existence, it is thus brought to date.

It would lead us too far to reproduce any portion of this remarkably interesting book. All members of the National Tuberculosis Association will want to own it and to study it. It carries with it a message of hope and of encouragement, not only because it relates conquests gained over so terrible a scourge as consumption; but, no less, because its lessons may justly be applied to other preventable diseases that now afflict mankind—because it intimates by inference that similar victories may be won in other fields than in that of tuberculosis.

*The reader is referred to the editorial article on page 787 of this issue of CLINICAL MEDICINE.

SAVILL: "CLINICAL MEDICINE"

A System of Clinical Medicine Dealing with the Diagnosis, Prognosis and Treatment of Disease, For Students and Practitioners. By Thomas Dixon Savill, M. D. Sixth Edition. New York; Wm. Wood and Co. 1922. Price $9.00.

The American publishers of the sixth edition of Savill's "Clinical Medicine" deserve the thanks of the medical profession for having made more readily accessible this remarkable textbook which is altogether too little known.

The outstanding feature of Doctor Savill's treatment of his subject matter is, that he has followed a course differing radically from that of most textbook writers. Instead of describing a named disease and discussing it from various viewpoints, such as etiology, pathology, symptomatology, diagnosis, prognosis, treatment and prophylaxis, the author approaches his subject from the standpoint of symptomatology. That is, he examines and investigates the symptoms that present themselves on examination of a patient and then inquires what these symptoms are the effect of. The order of sequence of the various discussions is that which should be adopted in the examination of a patient.

The first chapter of the book gives a general scheme for the examination of a case and deals with certain general principles underlying methods of observation, diagnosis, prognosis and treatment. In the second chapter, the physiognomy of disease is discussed. The succeeding chapters deal seriatim with the symptoms and signs referable to the several organs or anatomical regions of the body, and the disease which may cause those symptoms.

Each chapter is divided into three unequal parts. Part A. treats of the *symptoms* which may indicate disease of the organ or region under discussion, the fallacies incidental to their detection, and a brief differential account of the various causes which may give rise to those symptoms. Part B. treats of the *physical signs*

of disease in that region, and the various methods used to elicit them. Part C., which constitutes the major portion of each chapter, is prefaced with a *clinical classification* of the various maladies affecting that region, and a summary of the routine procedure to be adopted; and this is followed by a series of sections dealing with the several *diseases*, arranged according to their clinical relationships. For example, in Chapter III, on The Heart—Part A. describes and differentiates the various causes of breathlessness, dropsy, palpitation, precordial pain, and the other symptoms which may be indicative of heart disease; Part B. describes percussion, auscultation, and other methods of examining the heart; Part C. deals seriatim with the various cardiac disorders, classified and arranged on a clinical basis.

The result of this mode of procedure is highly satisfactory to the physician. He is led logically from the consideration of symptoms to the determination of that disease or collection of diseases that may be responsible for the symptoms observed.

In the Reviewer's opinion, this book is too valuable to be discussed merely in a brief review. An attempt will be made to publish a more detailed consideration in an early issue of CLINICAL MEDICINE.

FAUGHT: "LABORATORY DIAGNOSIS"

Essentials of Laboratory Diagnosis Designed for Students and Practitioners. By Francis Ashley Faught, M. D. Seventh Revised and Enlarged Edition. Illustrated. Philadelphia: F. A. Davis Company. 1921. Price $4.50.

Faught's Laboratory Guide is one of those that are deservedly in great favor with psysicians. This is proved by the frequent reprints and revisions that have been necessary. The book is to be recommended to those physicians who do their own laboratory work or who want to be able to do some tests and evaluate their significance.

"MEDICAL RECORD VISITING LIST"

Medical Record Visiting List or Physicians' Diary. Revised. New York: William Wood & Co. 1922. Price $2.00.

Among the things, that remind us with inexorable regularity of the passing of time, are the visiting lists that are sent to us by their publishers, at the close of the year. These little volumes, to be utilized beginning with the approaching New Year's day, warn us that the year is coming to a close, that it is time to put our business affairs in order and to be ready for the new start.

In the "Medical Record Visiting List," which is before us, we find some very interesting general information, in addition to the customary text. "Facts" (p. 19), containing immensely useful hints for practical prescribing, are sure to be appreciated. The various methods for inducing artificial respiration, the discussions of the signs of death and the hints on the writing of wills may prove of great value in emergencies.

The Visiting List is beautifully gotten up; the paper is excellent and, altogether, the book is useful for those physicians who adhere to this method of keeping their daily records.

ROSE: "PHYSICAL DIAGNOSIS"

Physical Diagnosis. By W. D. Rose, M. D. Third Edition. Three Hundred Nineteen Illustrations. St. Louis: C. V. Mosby Co. 1922. Price $8.50.

We like this book. The author takes up the various regions of the body and discusses the normal and the abnormal findings that may present themselves to the examining physician on inspection, palpation, mensuration, percussion, auscultation, etc. As a guide for the physical examination of patients and for the determination of "what ails them," it is remarkably useful. It will repay careful study and constant consultation.

PITFIELD: "BACTERIOLOGY"

A Compend on Bacteriology Including Pathogenic Protozoa. By Robert L. Pitfield, M. D. Fourth Edition. Philadelphia: P. Blakiston's Son & Co. 1922. Price $2.00.

This little compend will be of service to a great many physicians who graduated before bacteriologic technic and the problems of immunity, immunization, etc., had become compulsory studies in the medical schools. The various problems concerned in infection and immunity are discussed here in sufficient detail to be useful, while the larger special treatises might prove alarming because of their formidable size. For those who have studied bacteriology in college, the book will offer a convenient means of reviewing the subject.

DOCTOR PEPYS' DIARY

Like ourselves, we feel sure, many of our readers must have followed the instalments of "Doctor Pepys' Diary" that appear regularly in the "Tonics and Sedatives" column of the

Journal of the American Medical Association. Indeed, we confess that we turn to that column mighty early in our persual of The Journal, and many a joyful chuckle has been induced by the quaint and often striking humor displayed by Doctor Pepys.

Recently, a reprint of Doctor Pepys' Diary has appeared from the press of the *Journal of the American Medical Association* embodying the instalments from 1919 to 1922. The pamphlet is attractive in form, vivacious and sparkling in contents, sincere in the advice, that is never given directly or platitudinously but that must be garnered from the text as nuggets are from the ore. Those of our readers, who do not know Doctor Pepys' delicious little paragraphs, we advise to examine the *Journal of the American Medical Association.*

SCOTT: "HUGHES' PRACTICE OF MEDICINE"

Hughes' Practice of Medicine Including a Section on Mental Diseases and one on Diseases of the Skin. Twelfth Edition. By R. J. E. Scott, M. A., B. C. L., M. D. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1922. Price $4.00.

This new edition of Hughes' Practice of Medicine which, like several preceding ones, has been prepared by Dr. R. J. E. Scott, of New York, again shows careful revision in accordance with the progressive development of medical science. We have here a handy text volume for rapid reference in which the diseases under consideration are epitomized. Despite the concise text, much valuable information is presented and the book will continue to be useful for ready consultation.

"HISTORY OF MEDICINE AND SURGERY OF CHICAGO"

History of Medicine and Surgery, and Physicians and Surgeons of Chicago. Endorsed by and Published Under the Supervision of the Council of the Chicago Medical Society. Chicago: The Biographical Publishing Corporation. 1922.

This medical history of Chicago includes records of the medical colleges, hospitals, medical societies, the Chicago Health Department, and biographies of 172 physicians and surgeons of the past, as well as biographical sketches and photographs of a great many members of the Chicago Medical Society today.

The idea of producing such a history of medical Chicago originated with the late Mr. Frank D. DuSouchet who prepared an enormous amount of material upon which the present work was published.

The large, well-printed and copiously illustrated volume is a handsome monument of the great medical center of the middle west.

DEACHMAN: "AUTO BIO CHEMIC TREATMENT"

Auto Bio Chemic (A. B. C.) Treatment. With Introductory Remarks on the Patient Himself and the Physician Himself. By T. Wilson Deachman, Ph. G., M. D. Chicago: Published by the Author. 1922.

The autotherapeutic ideas which, while very old, had fallen into abeyance until they were revived and popularized, over twelve years ago, by Dr. Chas. H. Duncan, of New York, are gaining an ever-increasing number of friends and adherents. It is interesting to note in current literature that not only Homeopaths but also physicians of the old school adopt this method more and more widely. Moreover, in many respects, the results are highly satisfactory.

In his book before us, Doctor Deachman follows essentially along these same autotherapeutic lines. He has acted upon the possibility of using the waste products of metabolism as a curative means in treating disease conditions. His method constitutes a treatment prepared from the retrograde metamorphosis of cell metabolism of the body as manifested by the urine in particular. Doctor Deachman harks back to isopathy of which Lux, the German surgeon, said, in 1833, that "all inoculable diseases contain in their substance of inoculation the remedy appropriate to cure it."

Accordingly, Deachman utilizes the urine both as a diagnostic and as a therapeutic agent His disquisitions are interesting, to say the least, and to one who has tentatively (at least) delved into autotherapeutic practice, they possess a decided appeal.

In accordance with the truism that every bona-fide method offered for the relief of suffering and for the cure of disease should be investigated carefully and that out of all the possible means the best should be retained, the Reviewer believes that the results of Doctor Deachman merit attention and careful clinical investigation.

STEDMAN: "MEDICAL DICTIONARY"

A Practical Medical Dictionary. By Thomas Lathrop Stedman, A. M., M. D. Seventh Revised Edition. Illustrated. New York: William Wood & Co. 1922. Price $7.00.

Stedman's Medical Dictionary is a well-known old standby. There can be no doubt about the excellency of its definitions and about their correctness. The Reviewer notes with great satisfaction that Stedman's Dictionary has given correct definitions of such terms as *sanatorium* and *sanitarium* which, it is pointed out properly, are not identical. *Tubercular* and *tuberculous* also have been differentiated in accordance with their etymology and with correct usage. It is to be hoped that these and other terms, which are used carelessly and often incorrectly even by well-informed writers, will soon be employed in accordance with the decision of Stedman's Dictionary. We even venture to hope that the Lexicographer of *The Literary Digest* will now see his way clear to revise his opinion with regard to these particular words.

Frequent test examinations of this dictionary, continued for about one month, have failed to show anything to which exception might be taken. The dictionary is as reliable as it always has been; which is saying a good deal.

FISHER: "OPHTHALMOSCOPY, RETINOSCOPY AND REFRACTION"

Ophthalmoscopy, Retinoscopy and Refraction. By W. A. Fisher, M. D. Illustrated. Published by W. A. Fisher, M. D., 31 N. State St., Chicago, Ill. 1922.

Prof. W. A. Fisher's name attached to a textbook on ophthalmoscopy is sufficient guarantee that the contents are of authoritative and practical value. His many years of teaching experience undoubtedly helped him to put down his instructions in so clear-cut and lucid a manner.

Whether or not the study of his book would make of the general practitioner an expert refractionist remains to be seen from the crop of new embryo ophthalmologists that is likely to materialize.

This, however, can not be doubted. Anyone who will read Doctor Fisher's treatise thoughtfully and conscientiously should be able to make use of the ophthalmoscope for diagnostic purposes and thus enrich his diagnostic acumen.

The significance of early pupillary and retinal changes in the eye is inestimable for the early recognition of a number of systemic diseases and it is this phase of our work where most of us fall down.

This valuable textbook should be on the desk of every general practitioner—not only as an ornament but as a ready reference and guide in the examination of the eye for diagnostic purposes, as well as for treatment of the disease of the eye.

BLUM: "PETROLEUM"

Petroleum, Where and How to Find It. In Five Parts. Part I, Geological Phase; Part II, Constructive Features; Part III, Operative Phase; Part IV, Commercial Phase; Part V, Fiscal Features. By Anthony Blum. Published by The Modern Mining Books Publishing Company, 905-127 North Dearborn St., Chicago, Ill. 1922.

To the prospective investor, this book is invaluable Not alone does it give information as to the geological, constructive, commercial and operative features of the oil business but it gives sound advice as to investment in oil stocks.

Chapter V contains truths expressed in epigrammatic form and are of such importance that, while they bear particular reference to the investment in oil stocks, they should be kept in mind by all those who plan to invest in any commercial or industrial enterprise. Of especial value are these wise sayings to the medical man; for, no other class of people falls such an easy prey to the smooth and silver-tongued oratory of the "get rich quick" schemes salesman.

The author has apparently learned his lesson in the school of "hard knocks" and he wants his readers to profit by his errors.

We heartily recommend the reading of this instructive book, but call especial attention to Chapter V. It alone is worth the price the publishers ask for the entire book.

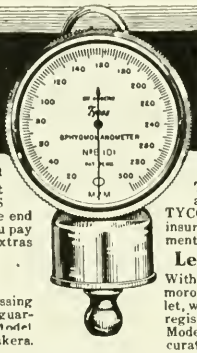
PIRQUET: "SYSTEM OF NUTRITION"

An Outline of the Pirquet System of Nutrition. By Dr. Clemens Pirquet. Philadelphia and London: W. B. Saunders Company. 1922.

This little book of 96 pages contains the principal facts and guides for the practical application of Professor Pirquet's System of Nutrition which he outlined a few years ago in a large work comprising four volumes.

We have before now referred to Professor Pirquet's ingenious method of determining exactly the dietary needs of children and adults. General practitioners are necessarily interested in the subject and will find this little guide of distinct value.

RENT THIS TYCOS



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Easy Rental Purchase Plan

By our easy rental purchase plan, after a first payment of only $2.50 we will rent this TYCOS to you for nine months at $2.50 a month, at the end of which time it is your absolute property. You pay only the cash price—with no interest and no extras—and have

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Just dignified credit. No red tape or embarassing questions. You take no risk. We absolutely guarantee this genuine Dr. Rogers' New 1922 Model TYCOS and it is also fully guaranteed by the makers.

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There is only one standard of the world—reliable—dependable—accurate—and that is the TYCOS, which has been adopted and is used by all insurance companies, the United States Government and medical authorities.

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With each TYCOS we give you free a handsome morocco leather case and a 44-page instruction booklet, which tells exactly how to use it. The TYCOS registers both systolic and diastolic pressures. Modern, scientific diagnosis demands the aid of an accurate instrument for determining blood pressure.

Dr. Rogers' Genuine 1922 Model Self-verifying Sphygmomanometer

Cash Price Everywhere $25 But we will send it to you upon receipt of only $2.50 and allow you ten days free trial. If then you wish to keep it, simply pay the balance, $22.50, in nine small monthly payments of $2.50, and the instrument is yours. You cannot buy it for less anywhere else. You cannot buy it on such easy terms except by the Aloe Easy Rental Purchase Plan

Ten Days Free Trial Just enclose first month's rent—$2.50 and we will ship the TYCOS at once Try it thoroughly for ten days Give it every test you can If you are willing to part with it, send it back at our expense and get your money. If pleased, then pay only $2.50 a month for 9 months. SEND FOR YOUR TYCOS TODAY Do it NOW. Let it PROVE it's usefulness to you It is so easy to own that you'll never miss the money.

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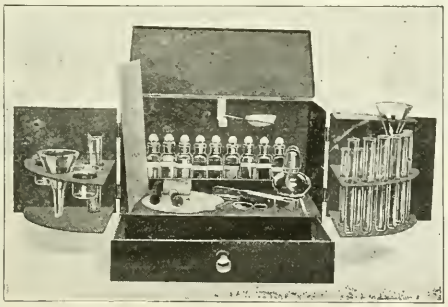

URINARY TEST OUTFIT IN STEEL CABINET

This simple but complete outfit enables you to make the simpler examinations of urine in your own office. With it, you can observe the exact reactions which take place and interpret them yourself. The new steel case, finished in smooth, olive green enamel, is cleaner, sturdier and more compact than the old style wood case.

Equipment includes nine reagents in glass-stoppered bottles, alcohol lamp, porcelain evaporating dish, two funnels, two beakers, assorted test tubes, urinometer, urinometer jar, wood test tube holder, watch glasses, glass stirring rod, litmus paper and graduated pipette. All equipment fits into the cabinet and drawer compactly.

2CM319 Urinary Test Cabinet, $10.50

FRANK S. BETZ CO.

NEW YORK HAMMOND, INDIANA CHICAGO

FILL OUT COUPON

FRANK S. BETZ CO.,
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Gentlemen:—Enclosed is remittance for $10.50 for which send me the New Urinary Test Cabinet with the understanding that it can be returned if not satisfactory in every respect.

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News Notes Department

Have you a therapeutic lamp? If not the addition to your office equipment if such an appliance may prove advantageous, as it has to many others. It provides an excellent way of applying heat, a dry heat of varying intensity, to any part of the body surface. And the patients are many and often seen who may be benefited by this resort. In fact, it is a matter of quite common observation that pain and stiffness, as of a joint or set of muscles, are promptly and decidedly relieved by the well regulated application of heat. Anyone whose office is wired can avail himself of electricity in this way, therapeutically, and profitably in more senses than one.

The Sterling Lamp is highly spoken of by those who own one. With it, electrical heat or heat energy can be regulated to a nicety. It is simple of construction and not too expensive. Prospective buyers may write to the Sterling Therapeutic Lamp Co., 540 Garfield Ave., Chicago, for a descriptive booklet.

A good place for patients who have to be kept under close observation or restraint while undergoing treatment against drug or alcohol addiction is a sanitarium. But for lack of means or other reason it is not possible to send all such patients away. The doctor then is obliged to treat a certain number in their homes, using perhaps the method originated by Dr. Quayle, of Madison, Ohio, in his own sanitarium there.

This home treatment of his is available to any physician. It is said to be very practicable and successful. Inquiries should be sent directly to the doctor himself, mentioning this journal.

Elsewhere we have called attention to the new theories regarding cancer, its cause and cure. The cause is held to be the ingestion of overmuch salt, that is table salt. The cure is said to consist in changing this excess into harmless substances by giving daily hypotonic doses of potassium nitrate. A solution for this purpose is supplied under the name of Tekarkin.

This, we understand, is proving successful in many cases. Dr. J. W. King has recently reported his experience with it, as follows:

"I investigated Tekarkin and found it curative in cancer. In the presence of Drs. H. C. Kehoe, Flemingsburg, Ky.; H. A. Dittmer, Manchester, Iowa; S. J. Wright, Akron, Ohio, and A. E. Parsons, Buffalo, N. Y., the tests

"Gland Transplantation Held Success"

—News Item

In Gonadal Insufficiency

Few physicians are willing to submit their patients to the uncertainties and difficulties of such an operation. Many have found that they are able to reach effectually the endocrine dysfunction responsible for such conditions as **Impotence, Presenility, Senility,** etc., by the use of **ORCHO-LYMPH COMPOUND** (Mayson). It is a potent and rational combination of orchic, adrenal and lymph glands, together with glycerophos, co., lecithin, and nux vomica 1/10 gr. to the dose. (Supplied without nux if so specified.)

ORCHO-LYMPH COMPOUND (Mayson) has given results of so brilliant a nature in **Impotence and Premature Senility** that many physicians consider it as a specific in these conditions.

ORCHO-LYMPH COMPOUND (Mayson) is used with marked success in Neurasthenia, Brain and Nervous Disorders, Locomotor Ataxia and Paralysis Agitans. The beneficial results from its use in the Run Down and Convalescent Conditions from any cause are certain and permanent.

Package of 100 tablets in sanitary glass vials.
(5 vials of 20 tablets each to the box), **$3.00**

Booklet containing useful information on organotherapy, free.

The Mayson Laboratory
5 South Wabash Ave. CHICAGO

Is Mineral Starvation a Primary Cause of Disease?

PHYSIOLOGISTS now generally concede that a demineralized diet reduces the supply of vital energy, and helps prepare a tissue-soil favorable to the growth of pathogenic germs.

Since mineral deprivation may be considered an actual cause of disease, Grape-Nuts is valuable in conditions of mal-nutrition resulting from demineralized foods.

Grape-Nuts contains all the mineral salts of whole wheat flour and malted barley. And its 20-hours' baking facilitates the ready digestion of the starches.

In fact, the qualitative tests of the self-developed sugar in Grape-Nuts indicate this food contains a notable proportion of dextrose—the end product of carbohydrate conversion.

In addition, Grape-Nuts is deliciously satisfying as a cereal—served with cream or milk it is a complete food.

Samples of Grape-Nuts, with full information, for personal or clinical trial will be sent upon request to any physician who will write for them.

Postum Cereal Co., Inc., Battle Creek, Michigan, U. S. A.

were made and demonstrated scientifically to their entire satisfaction that in Tekarkin we have an excellent internal remedy to combat this disease."

Castor oil. The idea that castor oil is a superior laxative for children, so superior that it is to be prescribed regardless of its vile taste is still firmly rooted. With many nothing else will do, nothing else is even to be considered. And so it is likely that children for the next generation or two will have it inflicted upon them.

This, in spite of the fact that there are palatable preparations quite as good or better, as agar-agar impregnated with laxative principles derived from prunes, tamarinds and other fruits. A preparation of this type is Analax, supplied by McKesson & Robbins, 91 Fulton St., New York City. For exact formula our readers will have to write the company. It has the form of pastilles, which are to be eaten as candy is; they are quite as palatable, we understand.

How salines act. It was once thought that salines were not at all absorbed but simply attracted water osmotically into the colon and so flushed the passage. But radiographic and other observations show that they are absorbed from the small intestine, act on the nervomuscular mechanism of the colon, and produce an increase both of motor and secretory activity. Salts, however, must always be given in or with much water, since they are retained in the stomach till isotonic.

In all seasons and throughout the whole year such a preparation as Abbott's Saline Laxative may be used with advantage in 50 percent or more of the patients seen by the doctor. An initial purge is frequently needed and there is nothing better for this purpose. A fortnightly dose is good for many people. And often one can dispose of indigestion symptoms effectively with such a saline. It is in fact a key to results in a great many instances.

Alkalol. This is a combination of certain physiological salts, in fluid form, possessing precisely the right degree of alkalinity, for topical use against inflammation. A liberal sample may be had by addressing a request to the Alkalol Company, Taunton, Mass.

Its peculiar field is mucous surface while in a state of irritation or congestion, such as the nasal membranes, the genito-urinary, etc. In practically all catarrhal conditions it assists nature in its efforts toward regeneration. Differing from the ordinary antiseptic fluids, it accomplishes this by reversing the osmotic current, and thus restoring the salts lost to the cells by a perverted secretorial activity, following what we call a cold, or an injury or a simple infection. Alkalol is a preparation of singular merit.

Expectorants. The season has arrived when expectorants are needed, for relieving the dis-

A DANGER SIGNAL

There remains no question as to the wisdom of employing suitable means to reduce hypertension and counteract or prevent it.

It is safe to regard high blood pressure always as a danger signal. It is wise always to treat it intelligently and safely by means of

Pulvoids No. 373 Natrium Co.

which is essentially the famous formula of Sir Lauder Brunton,
modified and proven by Dr. M. C. Thrush.

PULVOIDS NO. 373 NATRIUM CO. contain Sodium Nitrite, Potassium Nitrate, Sodium Bicarbonate, Nitroglycerin and Crataegus Oxyacantha. Sugar coated white or green with a special coating to disintegrate in the intestinal tract, thus avoiding gastric disturbance.

A safe, non-toxic, effective combination which is prompt in action and prolonged in effect. A clinical test will demonstrate its superiority and service.
Bottles of 1000 Pulvoids $5.00, direct to Physicians and Hospitals only, mailed free when cash accompanies order. Trade bottles of 100s, per dozen $9.00. Literature, case reports, etc., free on request.

If you dispense, ask for complete price list, including Endocrin Capsules and Salvarols (606 Suppositories).

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Dioxogen

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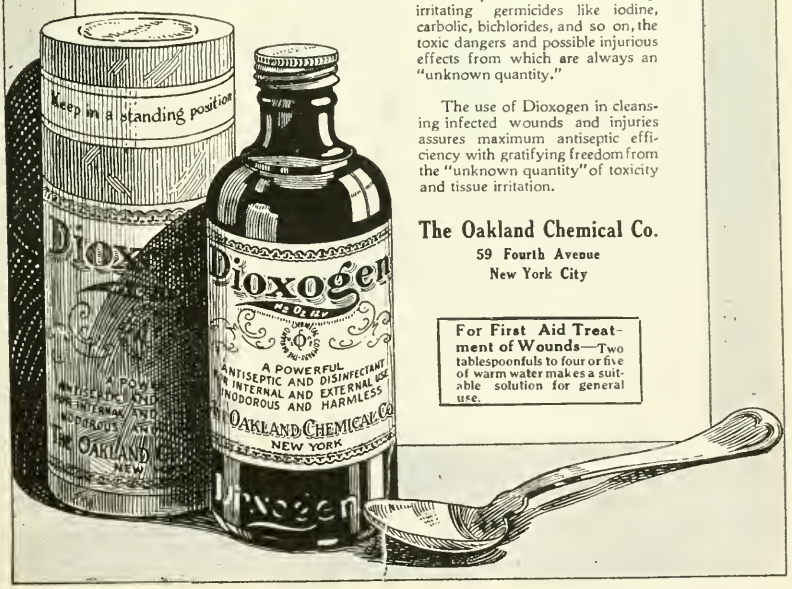
Antiseptic Efficiency Without the "Unknown Quantity"

NEVER was the necessity for prompt and effective antisepsis in the care of emergency or infected wounds, so widely and thoroughly recognized as it is today. As a logical consequence, never was there a time when the value of Dioxogen as an all round antiseptic was more evident.

This is easy to understand on the part of the many medical men who stop to realize that the germicidal efficiency and tissue healing properties of Dioxogen are due entirely to the **pure, active oxygen** it is able to carry directly to the wound or place required. Naturally they have come to prefer Dioxogen to those poisonous and essentially irritating germicides like iodine, carbolic, bichlorides, and so on, the toxic dangers and possible injurious effects from which are always an "unknown quantity."

The use of Dioxogen in cleansing infected wounds and injuries assures maximum antiseptic efficiency with gratifying freedom from the "unknown quantity" of toxicity and tissue irritation.


Keep in a standing position
Dioxogen
H_2O_2
A POWERFUL ANTISEPTIC AND DISINFECTANT FOR INTERNAL AND EXTERNAL USE INODOROUS AND HARMLESS
OAKLAND CHEMICAL CO
NEW YORK

The Oakland Chemical Co.
59 Fourth Avenue
New York City

For First Aid Treatment of Wounds—Two tablespoonfuls to four or five of warm water makes a suitable solution for general use.

tress arising from acute bronchitis. They serve a legitimate purpose, especially those of the demulcent type. For, without hindering the efforts of nature to throw off an attack, they make it easier for the patient to bear. A hard or so-called tight cough, without effective expulsion of effete exudate, is racking and indeed unnecessary. One may go still farther and say that the use of a well chosen demulcent expectorant will actually assist nature, insofar as it helps the patient to clear the respiratory tract of serous or purulent exudate as it accumulates.

Sharp and Dohme, Baltimore, have some excellent items of the class described. They are advertised in our pages this month. And samples are offered.

Beyond question, heat is of value in many conditions in which there is localized inflammation, with accompanying pain and muscular contracture. The question seems to be this: How is it best applied in order to realize the highest benefits possible from it? The most antique way of applying heat to body surfaces is, probably, by poultice; and, after that, by means of the hot water bottle.

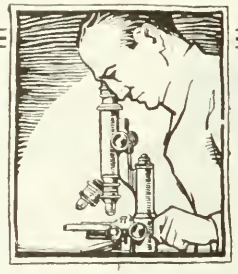
For office use, the appliance of H. G. McFaddin Co., 24 Warren St., New York City, featured in our advertising pages this month, appears to fulfil the requirements. It permits the operator to apply a very intense degree of heat and secure deep penetration without blistering, according to the manufacturers, when properly employed. For further information, our readers are invited to write for a treatise on the subject.

Years ago pain was considered salutory. People were exhorted to endure it, rather than attempt to avoid it. In fact, there were laws in the old days imposing heavy penalties on persons who contrived to relieve the sufferer. Even within memory of most of use the use of chloroform or opiates in labor, as means of carrying the mother through the painful ordeal, were viewed with holy horror.

But happily we have become more sensible. No doctor withholds an anodyne from a patient. He only chooses it circumspectly, prefers the coaltar anodynes not singly but combined, as in Phenalgin, in which the aim is to avoid the depression common to these agents. Those who have never tried Phenalgin should write to Geo. C. Cook & Co., New York City, for a sample.

News of the month. The Ernst Bischoff Co., Inc., of New York announce that they have taken over the following products which heretofore have been supplied by the C. H. Boehringer Sons Laboratories:

Alpha Lobeline, Cadechol, Perichol and Laudanon. These items are no doubt known to many of our readers. The first is a quick respiratory stimulant, a great help in collapse, a valuable emergency or first-aid remedy. The second is a camphor product, useful in



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AUTHORITY

Wherever you are and whatever your pathological facilities, check up occasionally with the NATIONAL. Wassermann Test, Blood Chemistry, Tissue Diagnosis, Bacteriological and Clinical pathological work. Containers with full instructions sent free on request.

NATIONAL PATHOLOGICAL LABORATORIES, Inc.

CHICAGO: 5 South Wabash Avenue
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Dr. Homer S. Warren, President.

Six Modern Ideas

On proper oral hygiene

Modern authority urges that a dentifrice should bring the following effects:

Stimulate the salivary flow.

Reduce the viscosity of saliva.

Increase the ptyalin—the starch digestant—in saliva. To better remove starch deposits on teeth.

Increase the alkalinity of saliva, to better combat mouth acids.

Combat the mucin plaque.

Polish teeth, without possible harm, so plaque less easily adheres.

Pepsodent complies

Pepsodent meets the first four requirements through its mildly acid character. It brings those effects, as do acid fruits. Alkaline tooth pastes, based on soap and chalk, bring the opposite effects.

Pepsodent combats the mucin plaque in two effective ways. And it applies a polishing agent, soft but effective, without the intervention of soap.

World-wide approval

Thus Pepsodent has won the leading place in the field of modern dentifrices. Dentists and dental authorities, nearly all the world over, advocate its use. And millions of people of some forty nations employ it.

Seven years of tests have proved that Pepsodent is right. We believe they have answered every question in its favor. And those answers are available to physicians who desire them.

Our Dental Department answers inquiries in authoritative ways.

A tube for testing is gladly sent to physicians who mail coupon.

Pepsodent PAT. OFF. REG. U. S.

The Modern Dentifrice

A scientific tooth paste, mildly acid, which brings five desired effects.

THE PEPSODENT COMPANY, 928
2002 Ludington Bldg., Chicago, Ill.

Please send me, free of charge, one regular 50c size tube of Pepsodent, with literature and formula.

Name .....

Address .....

Enclose card or letterhead

cardiac failure, and to support the heart at critical times. The third is similar, but especially useful in angina pectoris. The last is a morphine preparation without habit-forming tendencies, we are told.

Descriptive circulars and samples of any or all of these items are available to physicians.

Towels for the office. Tissue paper towels in many offices and factories have displaced linen towels, and best of all, we notice that they have led to the abandonment of the unsanitary roller towel, against which there has been more or less legislating.

They have other advantages aside from the sanitary, in large offices being cheaper and always available, without bother and cost of laundering. Certainly the individual towel idea is a good one. Many paper plants are now supplying the demand, among them the Scott Paper Co., of Philadelphia. Their goods are excellent, being exceptionally soft and having exceptional drying properties.

The firm supplies an outfit which meets very well the requirements of the doctor's office, consisting of a plate-glass mirror, a nickeled rack and a supply of towels. The price is $3.00.

Sick or injured people are not much interested in highly technical methods of classifying and labeling their disease or trouble. They demand treatment instead of diagnosis. Diagnosis interests the doctor. Treatment interests the patient. The patient wants to get well, not simply to be diagnosed.

In an experience gained through furnishing proper support in the cases of more than 45,000 spinal sufferers the Philo Burt Manufacturing Company has found much evidence of such an attitude.

The Philo Burt Appliance is designed on correct anatomical principles. It is not rigid, yet gives the required support and extension. It is light in weight and comfortable to wear. It is perfectly adjustable and is made to fit each individual patient. The measurements can be easily taken by any physician and the company stands right back of the doctor taking the measurements. A perfect fitting appliance is assured; should alterations be found necessary they are cheerfully and promptly made.

The appliance, while primarily intended for the benefit of cases of spinal deformity, scoliosis, lordosis and kyphosis, has been used with similar success in cases of spinal tuberculosis, spinal irritation, and general neurasthenia arising from pressure upon emerging spinal nerves.

When seeking a location or needing an assistant or desiring a hospital appointment or a laboratory position, there are at least two ways of going about to find what is wanted. One way is to advertise in the columns of the leading medical journals and this is often and perhaps usually successful. The other way is to consult the medical broker whose business

The Management of an Infant's Diet

Malnutrition, Marasmus or Atrophy

Mellin's Food
4 level tablespoonfuls

Skimmed Milk
8 fluidounces . .

Water
8 fluidounces . .

Analysis:

Fat . . .	.49
Protein . . .	2.28
Carbohydrates . .	6.59
Salts . . .	.58
Water . . .	90.06
	100.00

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

Mellin's Food Company, Boston, Mass.

BY OFFICIAL TEST, at Johns Hopkins University and Elsewhere.

Yeast Vitamine-Harris has been shown to be the **richest source of water-soluble-B Vitamine** ever introduced to the Medical Profession.

Dr. George R. Cowgill (Yale Physiological Laboratories), in experiments with Yeast Vitamine-Harris, reported:

1. **Improvement in Appetite.**
2. **Greater consumption of food.**
3. **Gain in body weight.**
4. **Improvement in cell activity.**
5. **Cure of Polyneuritis.**

Yeast Vitamine-Harris is indicated in **convalescence, wasting diseases,** and in the **diets of the young,** during the growing period.

Specify Yeast Vitamine-Harris Tablets. They are Physiologically standardized.

Vitamines A. & D. are found in Cod Liver Oil. Reports from Johns Hopkins University and elsewhere indicate that these Vitamines give to Cod Liver Oil its therapeutic value.

"Cod Liver Oil **U. S. P.**" is well-known to the Medical Profession. But—what is U. S. P.?

U. S. P. Tests for Cod Liver Oil are chemical Tests. We now have **Physiological** or **curative tests** and these should be required standards.

Cod Liver Oil-Harris is the first specimen of Norwegian Cod Liver Oil introduced to the Medical Profession, with a **known, standardized Vitamine value,** made by growth tests, upon growing animals.

Specify **Tested Cod Liver Oil-Harris.**

Write for literature on Vitamine Standards.

Prepared by

THE HARRIS LABORATORIES

Tuckahoe, New York

it is to find locations for doctor and assistants and positions. He brings the seeker and the sought-for together, as we may say. He is naturally in touch with both and logically the agent to make the connections desired. To be sure there is usually a registration fee or fee of some sort for the service rendered but if reasonable no one will object to that. The main thing is to find what is wanted.

The Medical Echo Co., Lynn, Mass., are engaged in this work and have been so engaged for many years. They have at all times a list of locations, openings, partnerships and assistantship opportunities, for the acceptance or refusal of clients.

Seborrhea. Dr. W. A. Pusey, Prof. of Dermatology, Univ. of Chicago, in his book on the treatment of skin and scalp diseases, says:

"Resorcin is largely used but in experience is very unreliable. It gives the hair a peculiarly harsh, disagreeable feel and occasionally produces a slight greenish yellow discoloration of the hair so that I have discontinued its use. Euresol, the mono-acetate of resorcin, a liquid miscible with alcohol or water, is much more satisfactory for use on the scalp. A form of it, called Euresol pro capillis, in which its unpleasant odor has been disguised, is an agreeable preparation."

For lesser degrees of baldness the author frequently uses the following: Hydrarg chlor. cor., grs. 8; Euresol pro capillis, drs., 4; spirit formicarum, ozs., 2; alcohol, 70 percent, to make one pint.

A clean gut. The importance of it is recognized by surgeons. How it may be attained, therefore, is a matter to consider. A fine bit of surgery, a deft operation, may easily depend for its eventual success on the bowel condition, whether clean or otherwise. Should not the bowel tract invariably be prepared or put in order before an operation?

For this Liquid Albolene has been proposed. Liquid Albolene identifies the genuine Russian mineral oil, used by Sir Arbuthnot Lane in his original investigations. It has a high degree of penetration and lubrication, softening debris and hardened masses, assisting to propel them through the bowel lumen, leaving the gut in good condition for operation, and for functioning afterward.

The makers, McKesson and Robbins, 83 Fulton Street, New York City, are sending out an interesting booklet entitled, "Below the Equator," which brings forward this and other ideas.

Unusual attention is being given by the medical profession these days to the problem of developing an organotherapy for diabetes. Contrary to an impression gained from reading some of the articles appearing in the medical journals, this is not a new subject. The recent "discoveries" really should be called

Two Dependable Remedies

Phosphorcin

Dr. M. writes: "I consider Phosphorcin a valuable preparation. I have taken it myself as a reconstructive after an attack of influenza with beneficial results and shall prescribe same whenever it may be indicated."

Iodotone

Dr. A. writes: "I use Iodotone continuously in my practice. Whenever cases of Angina Pectoris, Pleurisy and Rheumatism come to me, your Iodotone is my victorious weapon."

These practitioners have found Phosphorcin and Iodotone two remedies they can depend upon. They can treat a wider range of maladies, and they can do more for their patients, because they have at their command Phosphorus and Iodine in an available form for oral use.

So you may have an opportunity to try these remedies for yourself, we will gladly send samples sufficient for a test. A trial will convince you of their value.

Send your name and address for free trial supply

EIMER & AMEND, Third Ave., 18th and 19th Streets, NEW YORK

The Shotgun Prescription

THE shotgun prescription has no place in the resourcefulness of the scientific practitioner. Why? Because its use is an admission of indefinite knowledge as to the underlying causes of the presenting symptoms, and consequently uncertainty as to the proper therapy.

Isn't there an analogy between the shotgun prescription and the unthinking striking off of Coffee from the menu of patients without first justifying the dictum by the symptoms and the diagnosis of *each particular case?* You don't do it with eggs, or milk, or sugar, or red meat, or tomatoes and dozens of other articles of diet which are contra-indicated in *certain few cases only.* Then why discriminate against Coffee—the morning drink of most people?

Dr. Oliver T. Osborne, Professor of Therapeutics at Yale University, in his book on *Therapeutics,* states that "serious symptoms would rarely be caused by any ordinary amount of caffeine, except in one who had an idiosyncrasy against it."

Moreover, Coffee may be just the therapeutic aid indicated. For Dr. Osborne further says: "Caffeine may slow and steady a weak heart by stimulation of the vagus center, and thus may strengthen the heart." Also, "Caffeine is quickly absorbed and acts quickly and it should be remembered that caffeine is as well administered in the form of strong Coffee as in any other."

Isn't it reasonable for your patients to expect of you as much thought in proscribing articles of diet as in prescribing them? The contra-indications for Coffee are *really few.* Its therapeutic value is greater than perhaps you have realized.

Joint Coffee Trade Publicity Committee, 64 Water Street, New York, N. Y.

"developments", for a number have been at work on this very problem these many years.

An interesting development of very considerable promise is recently announced by Dr. Henry R. Harrower, who states that he has perfected in his laboratory in Glendale, California, a pluriglandular formula directed at the pancreatic deficiency, which is known to be so important in connection with this disease.

Pan-Secretin Co. (Harrower) is a combination of the extract of the pancreas (rich in the incretory cells) and secretin, the well known pancreatic hormone stimulant, along with tonsillar extract. This new product is worth investigating, for it is rendering efficient service in many serious cases of diabetes.

Mineral oil. As a departure from cathartic drugs for persons more or less constantly in a constipated condition, mineral oil is often found to serve most happily. It is a good regulator for women and sedentary persons of both sexes.

But mineral oil is not all alike; different samples show a great difference in viscosity, some being altogether too light to be useful. And still all oils are disagreeable to take and with not a few patients become positively nauseating after a few weeks. An emulsion in all respects is preferable, such as Petrochondrin, from The Abbott Laboratories, Chicago. This is flavored as well and is taken even by children without protest. Because it favors intestinal digestion such a preparation is extremely useful in malnutrition cases, and should be tried. It is also being employed very largely as a vehicle in place of syrups, for administering bitter and otherwise distaseful drugs.

Well to know. There are times when an abdominal binder or supporter is needed, as after operations on the lower trunk and after pregnancy. And other conditions call for such a device, among which are general relaxation or weakness of the abdominal walls, obesity, some hernias, visceral ptosis, etc.

When thus or for other reasons needed, it is well to know that the Storm Binder answers as no other kind does, both for men and for women. It is built of a fabric that has elasticity and yet has wearing qualities beyond rubber. And it is washable, which is a feature to appreciate. Besides the purposes already named, it serves for persons, especially stout, who ride or do gymnasium work, or play at tennis.

In all cases, when applying at your druggist's or supply house, remember the Storm Binder and insist on having it. For prices, etc., address Dr. Katherine Storm, 1541 Diamond Street, Philadelphia.

Prescribing creosote is not so easy as prescribing almost any other drug one can name, drugs less offensive to the palate and more apt to upset the stomach. Decidedly, it is not a drug to prescribe in a perfunctory way. On

Even Nature Waters the Milk!

The fact that at least 86% of milk is represented **by water,** justifies the advantage of using the milk solids in powdered form,—i.e., as **DYRCO. DRYCO** is powdered milk, obtained by the rapid drying of fluid milk on polished steel cylinders heated to 212° F. The process occupies only **two seconds.** Caramelization of the milk sugar is avoided. Casein is changed into a colloidal form, and its digestion rendered prompt and easy, without large tough curd formation. The fat emulsion is broken up,—fat is present as a free fatty acid.

Hence Dryco Is An Ideal Food for Sick and Invalid Feeding.

DRYCO is easily prepared, pleasant to take, digestible in cases that cannot take ordinary milk, produces prompt gain in strength and weight, is bacteria free.

Dryco Has Solved the Problem. Try It.

SAMPLE, LITERATURE, CASE REPORTS, ETC., ON REQUEST.

The Dry Milk Company, 13 Park Row, New York City

"An International Institution for the Study and Production of Pure Milk Products."

KELLOGG'S BRAN

runs 8.41% Mineral Salts as well as being a natural laxative

VALUABLE properties to be found in bran have increased professional regard for this important cereal. It is used in increasing quantities in well-organized households where diet and health are given thoughtful consideration.

The deliciousness of Kellogg's Bran, in its cooked and krumbled form, has overcome objections found to common bran. Bran, as manufactured under the Kellogg process, is a delight to eat as a cereal, with other cereal, and in appetizing bakery batches. At least two tablespoonfuls daily are recommended; as much with each meal in severe cases. It can be prescribed with confidence.

The action of Kellogg's Bran is entirely natural and mechanical. Bran, as you know, adds to the indigestible residue in the bowel tract, its bulk serving to distend the intestine, thereby inducing better peristaltic action.

It will please us very much to send physicians a full-sized package of Kellogg's Bran, without any obligation. Mail request card to Kellogg's Toasted Corn Flake Co., Battle Creek, Mich.

An Analysis of *Kellogg's* BRAN cooked and krumbled

Aside from its regulatory value, Kellogg's Bran commands attention as one of the most valuable foods known. Read this analysis:

Moisture	2.50
MINERAL SALTS	**8.41**
Protein	15.8
Fat	2.8
Crude Fiber	8.9
Carbo-hydrates	61.6
Calories (per pound)	1480.46

Kellogg's

Look for this signature W. K. Kellogg

the original BRAN - *cooked and krumbled*

the contrary, success with it depends very largely on the preparation selected.

Many are offered, but few are really worth considering. One of the best is that supplied by the Tilden Company under the brand-name, Firolyptol. In this excellent preparation the offensive taste of creosote as such, is practically overcome by the addition of eucalyptol and other expedients. On the whole it impresses most users as a feat in compounding seldom if ever equaled. Few patients complain against it and those who do are usually finical ones who revolt on the slightest provocation.

From year to year patient, clever inventors continue to give us better electrical equipment for use in medical diagnosis and treatment, making changes in old prior models, improving some feature or other of the mechanism, until an end-result is achieved that seems all one could reasonably desire.

The radiographic transformer, quite a necessary equipment in any office at this time, has especially been subject to scrutiny and study with the view to making it sufficient in every detail, even to the very smallest.

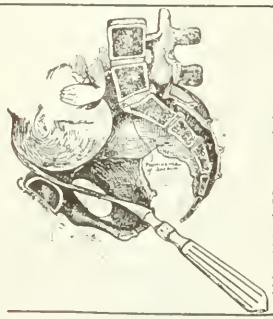
Along with others in their field, the Victor Electric Corporation have reached a high plane of efficiency. They make an excellent line of apparatus, transformers and kindred apparatus. Old in the field, and widely known, they need little boosting as manufacturers of electrical helps for the doctor. Since they started, some fifteen or eighteen years ago, numerous others have appeared in competition with them, with alleged patents superior to any, but the Victor people have held their own, with increasing sales.

They issue a large illustrated catalog which they will send to such of our readers this month who happen to be interested in this subject.

For relief of those distressing nervous symptoms that come with the menapause, natural or postoperative, such as hot flushes, asthenia, headaches, dizziness and so forth, as well as some skin troubles showing at this time, ovarian substance from a reliable source is recommended. It should also be remembered for delayed or suppressed menstruation, especially when occurring early in life and associated with tardy development of the female generative features. In functional amenorrhea it frequently does good work; after ovarian operations; and, in beginning goitres, along with iodine, in young girls.

Rorer's preparation is preferred by many careful prescribers. Each capsule contains: whole ovarian substance, grs. 2; lecithin, gr. ½; hemoglobin, grs. 5. Keep this excellent hormone preparation in mind.

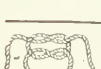
Evaporated milk is a commodity for which the demand has steadily grown in recent years to almost an unbelievable extent. It clearly meets a want and meets it properly. There are sections in the south where fresh milk for most families is out of reach, where the supply is



Very Helpful in Child Birth

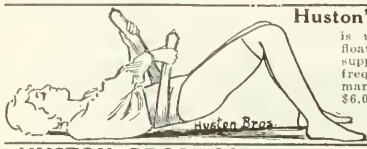
Huston's Obstetrical Blade or "Shoe-Horn" is really a unique invention

Where the foetal head engages against the Symphysis pubes instead of emerging directly toward the birth canal, this instrument is worth its weight in gold. The head of the foetus may be readily deflected toward the canal. Eliminates hours of suffering. Price $5. Money back guarantee.



Only a Nickel

Full supply "Neversslip" for thirty cases at only a nickel each. Send us $1.50 and we will ship at once prepaid. You will say that Neversslip is your best aid in obstetrical technique. The only round cord that will not slip, will not cut and will always hold. Get the genuine. Specify "Huston's."



Huston's Comfort-U-Supporter (WASHABLE)

is unsurpassed in cases of enteroptosis, gasteroptosis, floating kidney and post-operative conditions, requiring support. It relieves dragging on the solar plexus and frequently restores to vigorous health; also helpful in many cases of confinement. Retail prices: 6" width, $6.00; 7" width, $6.50; 8" width, $7.00; larger sizes proportionately higher in price. A discount of 25% is allowed physicians. Washable. Durable. Economical.

HUSTON BROS. CO., 30 RANDOLPH STREET, CHICAGO, ILL.

Complete Lines of Physicians' Supplies

When Nature Signals

THIRST in fever is Nature's signal for liquid. How best to meet the indication is the physician's problem.

The commonest need is for a fruit acid drink, and in Welch's Grape Juice you have at your command a drink for your patients that, while satisfyingly acid (chiefly tartaric) when taken, is converted in the body into the corresponding carbonates and so helps to render the blood more alkaline and the urine less acid.

In addition, Welch's—the pure juice of ripe selected Concord grapes—has real food value; because it is rich in sugar content—invert sugar all ready for immediate absorption into the circulation. Its protein is 1.3 per cent and there is an appreciable amount of vegetable fat and only one-half of one per cent of ash.

When Nature signals, try Welch's. It is sold by druggists and grocers in quarts, pints, and 4-oz. Juniors.

Welch's

THE NATIONAL DRINK

The Welch Grape Juice Company, Westfield, N.Y.

scant and the cost very high. In such places evaporated milk is something to appreciate. It is always available in lieu of fresh milk. It keeps well in warm climates. It is fairly cheap. And so it is used daily, in coffee, with breakfast cereals, etc.

Elsewhere, for that matter, it serves nicely when the local milk supply is not above suspicion. At least evaporated milk is pure and wholesome, if of the Golden Key brand, for example. This comes from the dairy farms of southern Wisconsin. In a test recently, in which a number of brands were entered in unlabeled cans, this one easily came away with first honors.

No trifle. Details are not necessarily trivial. Often they count tremendously. So far as the doctor is concerned, as with many others, success depends very largely on attention to such small affairs in the life of a patient as some may unwittingly ignore. This capacity for details is indeed characteristic of big men.

For instance, it may not seem important, to the average, whether his neurasthenic patient wears leather heels or rubber heels. This, nevertheless, may be one of those little things that count. Whether a desk-worker uses a hard pencil or a soft one may seem insignificant. But it may not be so. And again in a rectal case, the choice of a toilet paper may even engage one seriously. There are times when one may recommend with advantage Sani-Tissue, for example, an especially soft cloth-like paper made by the Scott Paper Co., of Philadelphia.

As an antiseptic for everyday use Chlorazene leaves all others far behind. It combines efficiency with safety. That so powerful an antiseptic can be so harmless, and so generally employed without the usual risks from toxicity, is no less than wonderful.

The other day, in Chicago, a physician mistook a glassful of bichloride solution for water, drank it, and died. But what business had bichloride in his office? Why, oh why, with Chlorazene at his disposal, will any physician persist in using this highly corrosive poison? With the chlorine antiseptic such an accident could never have happened.

It is useful in other forms than a solution. It is useful as an ointment, such as The Abbott Laboratories supply, ready prepared in opal jars. Chlorazene Surgical Cream, it is called in the catalog of this firm. Many use it as an application for ordinary wounds, for bedsores, for ivy-poisoning, for scalp irritations, etc.

Elastic stockings. Unless well made, precisely sized, from the best of fabrics, elastic stockings are assuredly a poor investment. The doctor is sorry he prescribed them and the patient sorry that he bought and paid for them. It is not enough, therefore, that the patient be sent to a dealer, any dealer, with a mere prescription calling for stockings. The

"Sedatole"—"Linctus Comp"—"Hyotole"

three admirable demulcent expectorants of which **we are now shipping large quantities** to the drug-trade in anticipation of your urgent requirements this fall and winter when, owing to the shortage of coal, "flu," pneumonia, bronchitis, etc., are liable to occur in your practice, perhaps epidemically. If you send in for samples **please mention your Fed. Lic. No.**—this only for our records. None needed when you prescribe them; just keep records.

Ethical Expectorants

SHARP & DOHME, Baltimore

Conscientious Chemists Since '60

Liquid Petrolatum in Colitis

Chronic colitis, dilatation of the catarrhal right colon, the whole viscus in irritation as shown by the excessive peristalses throughout. Fermentative type of toxemia present.

From "Diseases of the Digestive System," by Anthony Bassler, M.D., F.A.C.P. Published by F. A. Davis Co., Philadelphia.

Normal Colon

An enterologist of international repute calls attention to the value of liquid petrolatum in colitis. In connection with such routine measures as proper diet, he finds that liquid petrolatum aids greatly in soothing the irritated surfaces and, through softening the intestinal contents, helps to overcome the spastic condition of the intestine.

NUJOL is highly efficacious in all types of intestinal stasis and resulting disorders. It is used in practice by many leading enterologists.

In determining a viscosity best adapted to general requirements Nujol Laboratories tried consistencies ranging from a thin fluid to a positive jelly. The viscosity adopted was fixed upon after exhaustive clinical test and research and is in accord with the opinions of leading medical authorities.

That the value of Nujol to the medical profession is generally recognized is attested by its use by physicians and in hospitals the world over.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis.

Nujol

REG. U.S. PAT. OFF.

A Lubricant—not a Laxative

Guaranteed by Nujol Laboratories, Standard Oil Co. (New Jersey)

44 Beaver Street, New York City

doctor should know brands and specify the one he knows to be good.

The stockings made by G. W. Flavell & Bro., 1011 Spring Garden St., Philadelphia, are among the world's very best merchandise. They give the longest possible service, and should be remembered for varicose vein cases and others needing applied pressure at some point along the leg, from ankles to hips. An illustrated catalog describing a variety of stockings to subserve individual requirements may be had on request.

With most of us the question is not so much whether we shall ride or walk, but whether we shall wear rubber heels or not. The writer decided this many years ago. He was one of the first to fit them to his shoes, at a time when they were regarded curiously and even disapprovingly. The idea of a person making his way about without more or less clatter or without being heard at all, was associated often with thievish or otherwise dishonorable intentions.

Viewing it sensibly, one must admit that rubber heels are almost if not entirely necessary, in this day of hard concrete walks and floors. Many doctors prescribe them for their nervous patients. O'Sullivan's are still among the best, for elasticity and wearing quality.

The thing to insist on by every physician prescribing mineral oil for his constipated patients, next to the requirement that the oil be highly refined, to the point where it is colorless, odorless and tasteless, is that it shall be of a certain heavy viscosity. An oil of water-like fluidity will not do medicinally, although for sundry other purposes it may serve nicely. Its consistence should be sirupy, or about that somewhat less heavy than glycerin at ordinary room temperature.

Not all the oils sold are like that. Nujol is and may be prescribed with confidence. Nearly all drug stores have it in stock or can readily obtain it.

Light Baths. The efficacy of the solar rays in the treatment of certain conditions is often quite remarkable, and sun cures are claiming more and more attention. They are best carried out by the seashore or on the mountains,

Pond's Extract- -- Tonsillitis

Few remedies are so dependably useful in relieving the acute discomfort and pain of *Tonsillitis* as Pond's Extract. Used as a gargle every hour—a tablespoonful to a half glass of hot water—its effects are prompt and gratifying.

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TESTOGAN
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They contain SEXUAL HORMONES, i. e., the hormones of the reproductive glands and of the glands of internal secretion.

Special Indications for Testogan:
Sexual infantilism and eunuchoidism in the male. Impotence and sexual weakness. Climacterium virile. Neurasthenia, hypochondria.

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Infantile sterility. Underdeveloped mammae, etc. Frigidity. Sexual disturbances in obesity and other metabolic disorders. Climacteric symptoms, amenorrhea, neurasthenia, hypochondria, dysmenorrhea.

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For spraying any liquid, oil or aqueous. Invaluable for Nose and Throat work.

SINUSOIDAL
Sedative and Analgesic
Is indicated in:
Muscular Ataxy, Atrophied conditions of the
Many forms of Paralysis, Muscles and Nerves, and
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For removal of small Fibrous Growths.
Instantly stops bleeding (Hemorrhage).

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Invaluable in Ear, Nose, Throat and Frontal Sinus Examinations.
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Reduces High Blood Pressure.
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For Bier's Passive Hyperemia Technic,
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As assistant in Mastoid Surgery.
For draining during Tonsillectomy.
And for Boils, Carbuncles, and Infections.

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For the development of flabby tissues and muscles.

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Dilates the Blood Vessels.
Increases the Blood Supply to a given area.
Increases Oxidization and Oxygenation.
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A dehydrating process.
A successful treatment for all accessible benign neoplasms of the skin and mucous membranes.
It is curative in localized malignant lesions.
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Increases the Oxygenation of the Blood and Tissues.
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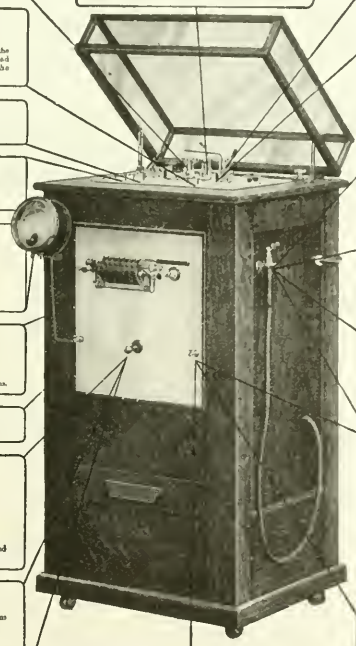

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For spraying antiseptic powder over open wounds.

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Brings instant relief from Lumbago,
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HEATED AIR
Is useful in:
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where the atmospheric qualities are more favorable than elsewhere.

These places, however, are not accessible to people living in the north except in a few instances, and the need of traveling long distances to get to them and the expense of sojourning there limit their usefulness to a small class. But the excellent results of light therapy can be realized by means of the Burdick Cabinet, utilizing electricity. This is a very useful equipment for the office and treatment room. An interesting descriptive booklet may be had from the Burdick Cabinet Co., 1400 Atlantic Ave., Milton, Wis.

The false notion that no remedy is absorbed by the skin leads many to neglect external applications. Unfortunately, the ointment has fallen from its high place for this or other reasons in the estimate of many a practitioner. And therein the practitioner is the loser. If he but knew it, he might successfully relieve the pain in a swollen joint, for example, by the application of remedies in ointment form.

Guaiacol, for one, is rapidly absorbed from the surface; it appears in the urine fifteen minutes after being applied. A quick and effective antipyretic action is thus obtained and that usually without the unpleasant symptoms following the administration of this drug by mouth.

An ointment known as Pneumo-Phthysine is being used with great success by many physicians. Those who have not used it will do

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Anyone afflicted with rectal or anal disorders will appreciate the change from an ordinary toilet paper to a soothing, soft, cloth-like Sani-Tissue.

Sani-Tissue is made under most hygienic conditions, and comes wrapped dustproof in glassine protective paper. All good druggists have it. FREE sample roll on request.

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The same holds true of the physician who does not carefully discriminate in his choice of a drug, or combination of drugs, for each individual case.

For the removal of effused fluid,—dropsy—in loss of cardiac compensation in valvular disease.—in chronic Brights, in Post-Scarlatinal Nephritis, or in ascites from Hepatic disease, ANASARCIN TABLETS secure prompt and satisfactory results, because ANASARCIN is a carefully worked out, scientifically tested and proven combination of agents, which overcome circulatory stasis, bring about resorption of effused fluid and elimination of both unrinary solids and fluids.

Anasarcin Tablets are designed to act specifically. That they do so act can easily be established by clinical test. Convince yourself, Doctor.

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Research Laboratories, at Schenectady, N. Y. from which the Coolidge Tube and other important contributions toward the advancement of X-Ray science have emanated.

What Research Has Contributed to X-Ray Science

It is assumed by many general practitioners that X-Ray machines cannot be used in general practice because their maintenance and application require an engineering knowledge of electricity.

This was true once, but not now.

Improvements in Victor apparatus, the result of long-continued systematic research, have made it possible for the physician to use it in general practice, without imposing upon him the duty of becoming a physicist and engineer. X-Ray tubes are now standardized so that they need not be "nursed," as in the old days; dosages are now automatically controlled. The physician has simply to learn the manipulation of the apparatus, a comparatively simple task.

Through its Service Stations, located in the principal cities, the Victor X-Ray Corporation is prepared to instruct the physician in the proper method of operating Victor machines, to give him such guidance as he may require, and to maintain his machine in good condition.

In a word, Victor X-Ray machines can be installed and operated on a simpler basis than the more complicated electrical and mechanical apparatus to be found in the offices of many general practitioners.

The nearest Victor Service Station will gladly send a technically trained representative to any physician who may wish to investigate the suitability of Victor apparatus for his practice.

VICTOR X-RAY CORPORATION, Jackson Blvd. at Robey St., Chicago

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well to write for a trial jar to try in a few cases. The address of the makers will be found in our advertising pages this month.

A clever new booklet. There has just come to our desk a little booklet of unusual attractiveness, describing the latest form of a perfected biological syringe.

The syringe container for antitoxins, serums, serobacterins, etc., has become such an everyday affair that most of us are prone to overlook the many parts which go to make up the complete syringe. This booklet is, therefore, of interest to all who use and handle biologicals, because it takes up each little part separately and explains in detail what is necessary to make the complete, assembled syringe satisfactory.

To those who have not seen this booklet, we suggest that they send for a copy to H. K. Mulford Company, Philadelphia. It is well worth reading.

Bule ointment. Instead of using this old and decidedly mussy ointment, which soils the clothing and in other respects is offensive to the user, many physicians are now prescribing Calomelol Ointment, from the laboratory of the Heyden Chemical Co. of America, Inc. Druggists have it in 2-ounce tubes or can procure it on short notice. This is almost colorless and makes a clean application. It has a high metallic mercury content. Decidedly, it is to be preferred when one has occasion to use mercury locally or by inunction.

To the same laboratory we owe some other excellent preparations of mercury, new and elegant forms of this old but necessary drug. There is mercury oxycyanate, for instance, in ample solution for injection purposes. This, given intramuscularly, is reported to be highly useful in syphilis.

New Book. A great many books and treatises on the same subject have been printed but Hirsch's "Gonorrhea and Impotency," now ready, is quite different from most of them nevertheless. It handles the subject in a very clear, very lucid and very interesting manner. The treatment of this common infection is covered in 172 pages, but by leaving out the useless verbiage common to larger works, it takes into account practically all that is known to be of value in this connection, including the latest developments in genito-urinary technic. The many illustrations help one to grasp the facts quickly. Several of the illustrations are in colors.

The book sells for $3.00 and comes from The Solar Press, 209 South State St., Chicago.

Standardized cod liver oil. Those who scoff at empiricism may well give pause to the new conception of cod liver oil values now prevailing. Was not cod liver oil esteemed a few years ago almost wholly for its hydrocarbon or fatty principles? Of course, some conceded that the oil contained traces of iodine, but frankly was it not prescribed usually be-

100 TABLETS FREE

ACTIVE CATHARTICS OR PURGATIVES THAT PRODUCE A WATERY STOOL DO NOT GIVE GOOD RESULTS IN

Habitual Constipation

as the digestive secretions are carried off and a period of constipation follows until the secretions again accumulate and the natural process of digestion and assimilation is resumed.

A mild tonic laxative gives the best result and you can obtain this with **Cascara Comp. Tablets (Killgore's)**, as they stimulate the secretions, give an easy natural movement without griping and do not become ineffective by continued use.

Dose: One or two tablets at night.

100 Tablets and Formula Sent to Physicians on Request

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What Is The Best Laxative For Children And Delicate Women?

MEDICAL MEN all over the country have found that Analax—the pleasing laxative — is almost invariably dependable for the gentle relief of constipation.

Analax has no drastic purgative action, causes no griping or intestinal irritation. With the delicious fruit juices that flavor it, it is as palatable and pleasing to the taste as any confection. Children take the pastilles readily. You don't have to "fight" them or bribe them to take Analax, as you do with castor oil or disagreeable laxative mixtures.

If you are not yet familiar with Analax, Doctor, send your card or letter-head, and we will be very glad to forward you samples for trial in a number of cases.

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Established 1833

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cause it supplied hydrocarbon materials? And now, at last, we find that its benefits are due in the main to the vitamines which it contains. The point is that all the years we have been using cod liver oil with the greatest advantage we have been ignorant of its true nature. We knew it gave results but how it did so was quite beyond us.

From now on cod liver oil will interest us in terms of vitamines. A physiologically standardized preparation, the first ever supplied, may be had from the Harris Laboratories, Tuckahoe, N. Y. For some time past this same firm has been supplying yeast vitamine tablets, which are known to be reliable.

One of the best known food preparations in Europe is known as Virol. According to the information given, it contains in condensed form and compass the nutritive principles of eggs, marrow fat and malt. These materials are made into an emulsion and flavored with lemon juice. While also suitable for nourishing the sick, especially during convalescence, as well as the aged in whom the digestive functions have grown feeble, it is most of all esteemed abroad for infant feeding, when the infant fails to thrive as it should with nursing or has not access to the breast. In such cases Virol is added to barley flour or to whatever other cereal food basis is selected. It has given very good results we learn in rickets, epidemic diarrhea, and malnutrition cases as a whole. It is advisable for

Now Ready—

HIRSCH'S

"Gonorrhea and Impotency"

A book which tells the story of how to treat successfully a case of gonorrhea in such a manner that it will be readily understood by the general practitioner. Brings out the technique for using the most modern equipment, including diathermy, ultra-violet radiation and heat. New and original illustrations, color plates, and diagrams make it easy to follow the various techniques.

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"It's Easy to See a White Horse in a Bog."

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It's easy to get convincing results from the use of DIONOL in local inflammation.

But it's no credit to the Medical Profession that, out of respect for so-called authority, many an unthinking medical man neglects to give his patient the benefit of the doubt by failing to test clinically some agent which may not have received the cachet of so-called authoritative approval.

A clinical test of DIONOL on a wound, a stubborn leg ulcer, in hemorrhoids, in pneumonia, influenza or any condition dependent upon or accompanied by local inflammation, will convince. Compared with ordinary conventional agents used for the same purpose the superior action and effect of DIONOL is as convincingly conspicuous as a "white horse in a bog."

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DURING the war, a British Commission, appointed to investigate dried milk reported:

"When breast feeding is impossible, dried milk is a very valuable food for infant feeding....
The physical and chemical changes produced by the process used in the preparation so alter its character that it is better borne in the infant's stomach than ordinary cow's milk whether raw, cooked or sterilized.... The effect on nutrition is marked."

NESTLÉ'S MILK FOOD is dried milk plus cereals, malt, and sugar. It is a complete Food, presenting in digestible form everything that the infant needs to assure normal growth.

Write Nestlé's Food Company, Nestlé Building, New York, for complimentary packages.

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For Babies and Invalids

Relieve Spasm of Unstriped Muscles

Hundreds of Physicians are having excellent results from the use of Esterol-Stearns (benzyl succinate, medicinal) in quickly relieving pain due to excessive spasm or contraction of the unstriped muscles.

Learn for yourself how thoroughly this product relieves Hypertension, Spastic Constipation, Angina Pectoris, Dysmenorrhea, Whooping Cough, and similar conditions requiring a positive non-narcotic, vaso-dilator and anti-spasmodic.

Fill in and mail the attached coupon for free Physician's sample and the booklet "Brief Clinical Notes."

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delicate children who appear not to derive the needed sustenance from the regular diet.

This food product is being offered in this country by the Geo. C. Cook Company, 59 Bank St., New York, to whom requests for samples should be directed.

Maternity. By no means so many children are born out of wedlock in this country as in several and probably all of the European countries. In Sweden, for instance, the birth-rate is high. And still, with conditions as they are, we have among us a certain number of unwed mothers who have to be taken care of; and, while society turns a hard face upon these women, it is the physician more than anyone else who realizes their trouble and seeks to make it easier to bear.

A retreat during confinement must be found for many. There is such a retreat in St. Louis, Mo., at 4496 Laclede Ave., conducted by Mrs. L. Young. Those in her charge receive the best of care, we understand. She will also find a home for the infant, by adoption, if this is desired.

The winter diseases. With winter close ahead, the doctor may now begin assembling weapons for his perennial fight against pneumonia and such other diseases of the respiratory tract. Past experience teaches that they may be expected and past experience should teach us how to combat them. As a matter of fact, time has actually brought better and surer recourses.

Among them is Nuforal, a bactericidal preparation for injection, from the Nuforal Laboratories, Inc., 686 Lexington Ave., New York City. It is said to be singularly successful in practice and deserves investigation. Trial ampules and case reports may be had by writing to the laboratories, at the address given.

The new hypnotic. The Hoffmann-La Roche Chemical Co. are introducing to the medical profession, under the name of Allonal, a new hypnotic and sedative drug. The outstanding fact in connection with the drug, and one unusual to others of this class, is that it also has pain-relieving properties. It appears also to be free from depressant effects either on the heart or respiratory centers.

A paper in reference to it was read recently before the Philadelphia Neurological Society, by Dr. M. A. Burns of Jefferson Medical College. Reprints of this paper may be had from the manufacturing company on request. Allonal is obtainable in tablets. It is said to serve well for patients heretofore requiring morphine alone or in combination.

For vaginal douching the old-time fountain syringe holds a place in the family bathroom which it hardly deserves. There are better appliances. One of these is the Marvel Syringe, which the physician may recommend in its stead with advantage to his patients. It is procurable at nearly all drugstores and supply houses.

Instead of throwing a single pin-like stream, which reaches only the part lying against the nozzle, the Marvel Syringe ejects an expansive volume of fluid, ballooning the vaginal passage and thoroughly flushing it out.

The Door to Our Laboratory is Never Locked

When the doctor encounters a patient who is taking the SERVICE of the National Bureau of Analysis we wish him to realize that the periodical urinalysis is in the hands of competent people.

We invite a visit and inspection from any medical man to our laboratory. Here he will find the analysis being made by an experienced and fully qualified staff under the direction of a physician.

The samples are checked and tabbed by a system which prevents the possibility of either mistake or carelessness.

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We do not make a physical examination as this is the province of the subscriber's own medical man.

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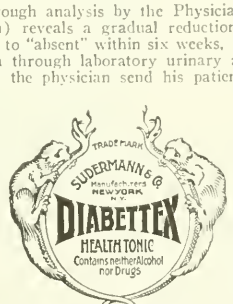
The checking up of cases through analysis by the Physicians Diagnostic Laboratory (with which we have no connection) reveals a gradual reduction of sugar elimination, one case having been reduced from 6% to "absent" within six weeks. Details of cases on request owing to our gratuitous co-operation through laboratory urinary analysis, it is recommended that, where possible or convenient, the physician send his patients to us for the filling of prescriptions for Diabettex.

DIABETTEX is advertised to physicians only and is never sold to patients direct. Interesting literature to be had for the asking.



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Here is the synopsis of his statement sworn to before a Notary:

"Thrown over an embankment by runaway team, dislocating lower vertebrae of spine, confined to wheel chair over eight years, treated by some of the best surgeons in the U. S. (names on application), no material benefit. Saw adv. of Philo Burt Appliance in a magazine April, 1921. Wrote describing injury and asking if they believed they could benefit me, reply was offer to make appliance to my measure, and send on 30 days' trial, money returned if not satisfactory. Ordered appliance and received it in about 10 days—helped me from first day, but could walk only a very little with aid of canes. Now can walk up and down stairs and get into auto without aid of canes and believe in time can walk without the appliance. Have induced other spinal sufferers to use the Philo Burt Method and they are showing wonderful improvement."

Allows Absolute Freedom of Action.

He used our Spinal Appliance on himself and for his patients "successfully."

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Write for quotations direct from laboratory to your office. Shipments made by parcel post same hour received. The William A. Webster Co., Pharmaceutical Manufacturers, Memphis, Tenn.

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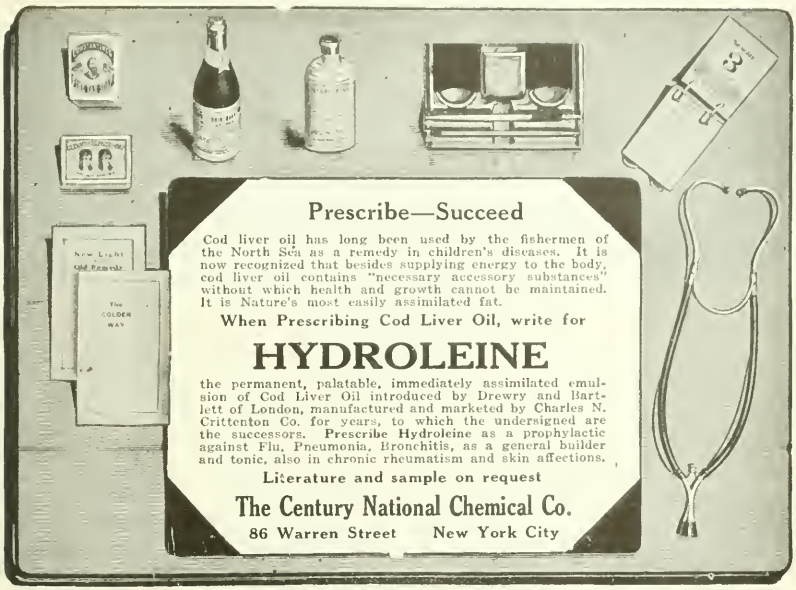
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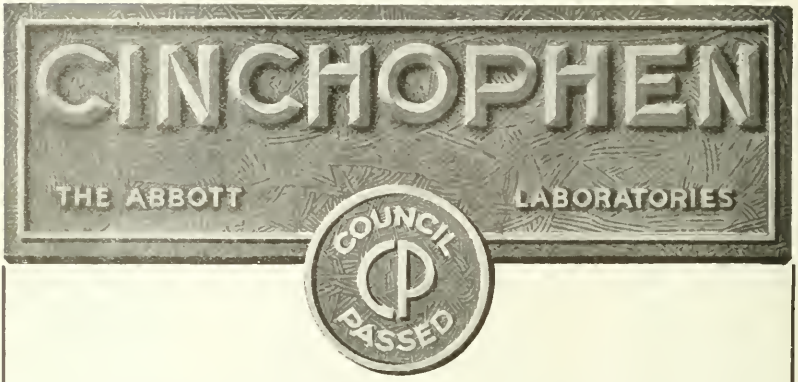

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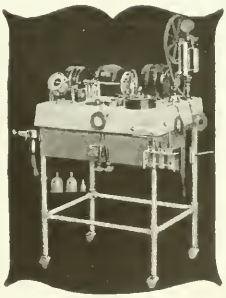

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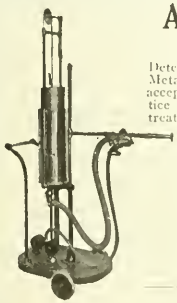

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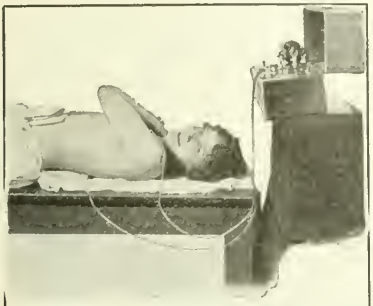

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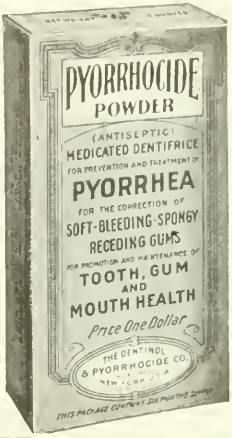

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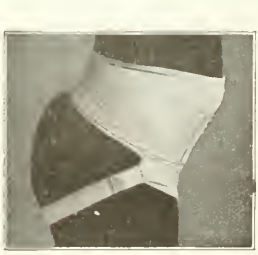

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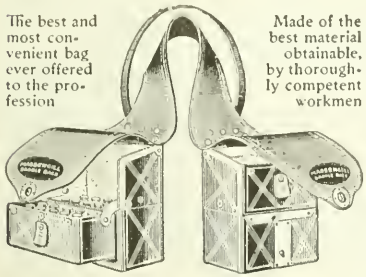

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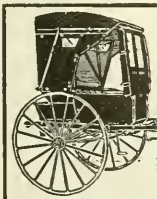

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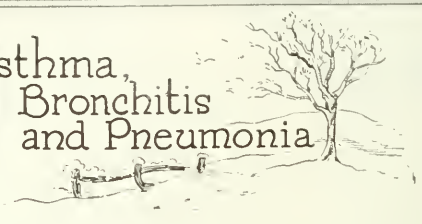

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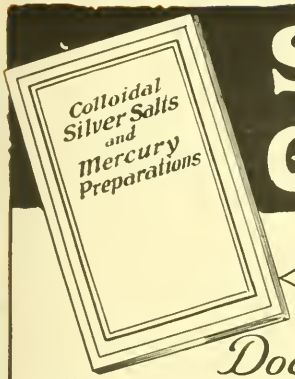

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